

Scorched Earth Online War User's Guide

Version 1.0

Compiled by 242Sqn_Raven

(For use with Scorched Earth Online War version 2.0)

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1.0 – Overview

Welcome to the Scorched Earth Online War (SEOW) system for use with the IL-2 family of games. SEOW will allow you to take your campaigns to an all new level through the use of an online mission planner/viewer and user creatable templates. This manual will assist you in creating templates and missions for use within the SEOW world. We hope get as much enjoyment from it as we have in creating it for the dedicated IL-2 players out there!

For information on installing SEOW please refer to the Scorched Earth Online War Installation and Administrator's Guide.

Many thanks to all that hard work and people who have made this available for the IL-2 community!

2.0 – Getting Started

After installing and configuring your SEOW software (please refer to the Scorched Earth Online War Installation and section 8.0 - Scorched Earth Administrator) you must create at least 3 accounts and load a template. The minimum required is an administrator account and an account for each commander. The default password for the administration account is included in the readme document included with the database creation scripts. The other accounts I would recommend are a read only account available to squadron members so that can view the scheduled missions and briefings prior to mission night.

The commander accounts can view their own units plus limited intelligence of the opposition as well as schedule both air and ground missions. The read only accounts cannot plan missions only view missions scheduled by the commander, view briefings he has entered as well as view the limited reconnaissance information.

After logging in as a commander you are able to schedule missions for your air/land/sea forces.

Shared capabilities of the commander and read only interfaces are detailed in 4.2 Read Only Interface.

3.0 – Templates

Templates are IL-2 Full Mission Builder (FMB) files that match available maps contained within the SEOW database. For information on the available maps check Appendix A.

Navigate to your SEOW webpage first and login to see the map. I will use the Stalingrad map as an example. Click on Stalingrad and log in as a valid user (Figure 1).

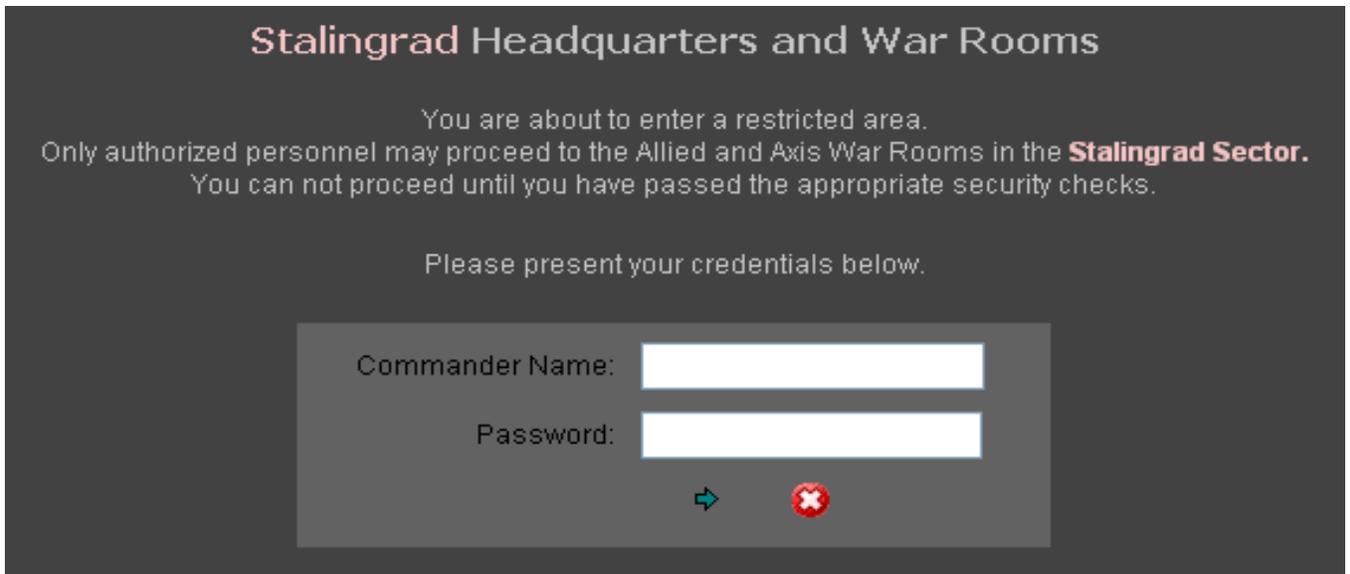


Figure 1 – Scorched Earth Login

Now when the map is displayed select the view entire sector from the drop down menu in the centre top of the window.

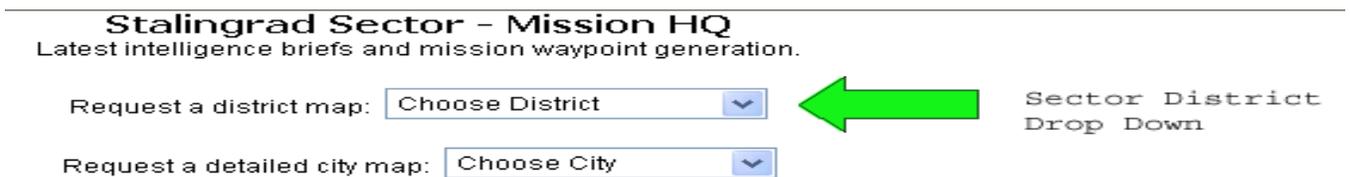


Figure 2 – Sector District Selection

The entire map will now be displayed with icons for all airbases. Move your mouse cursor over an airbase and information about that base will be displayed. It will show the name of the base, available fuel, number of aircraft that can be stationed there as well as the number of AAA emplacements. Be warned that if full strength ground units is selected from the template loading interface that your AAA units placed at the base will be multiplied by 4! Take note of the information on aircraft bays and AAA emplacements as you will need to reference it when creating your template in the FMB

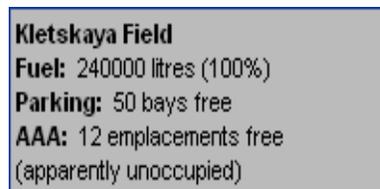


Figure 3 - Airfield Information Popup

3.1 – Creating a Template

To create a template of your own use the FMB available with IL-2 (for instructions on using the FMB please refer to your PF Manual) and open a map that corresponds with one of the available maps within the SEOW database (e.g. Stalingrad). I start by placing the scenery first by adding objects (trees, buildings etc), these are placed in each successive coop by SE. Next place go to your airbases and place your AAA (and gun pits if desired). Beware that there is an option when loading a template to load ground/sea unit at maximum strength so a single 40mm Bofors in a template will expand to four 40mm Bofors in SEOW if this option is chosen. Place any ground or sea forces you want for each side again be aware of the quadrupling if that option is selected. Last create your aircraft. Give all your aircraft air starts and at **least** 3 waypoints prior to landing. Ensure that you do not overload the bases. Again base restrictions are noted in the SEOW maps as detailed above.

If the commanders have agreed to a plane set or ground/naval units ensure that the requisite units are placed in the template.

The mission templates also support the ARMY briefing commands detailed in the FMB section of the appropriate IL-2 manual. This information becomes static in the template and is used for displaying campaign information and overall objectives for each side. The information in the army none section is viewable by all sides while the army *colour* information is viewable only by players allocated to that side as defined by their logins. Please see the administrators guide for information on setting up accounts.

Once you are happy with your template you can load it into the SEOW. You can then view it and determine if modifications are necessary. This may take a few tries, trust me here. Unfortunately with the current release you must flush the database prior to loading a template. For instructions on installing/administering/loading templates please refer to the Scorched Earth Online War Installation and Administrator's Guide.

The following IL-2 maps are currently supported in Scorched Earth Online War. The Scorched Earth sector name is on the left and the associated IL-2 map name on the right:

Scorched Earth Sector Name	IL-2 Map Name
Smolensk	Smolensk
Moscow	Moscow1
Prokhorovka	Prokhorovka
Kursk	Kursk
Kursk	Murmansk
Lvov	Lvov
Crimea	Crimea
Kuban	Kuban
Stalingrad	Stalingrad1

Scorched Earth Sector Name	IL-2 Map Name
Normandy	Normandy2
Ardennes	Ardennes Summer
Tunis	OnlineMT
New Guinea	New Guinea

Table 1 - Scorched Earth / IL-2 Map Reference

3.1.1 – Merging Templates

Another option for creating a template is to use the merge template tool developed by 242Sqn_TheProf and Murdock_SE for the MP. First the 2 commanders must start with an identical map with the front markers already in place. Each commander then gets a copy of the map and data file for use with the IL-2 FMB. Each commander is now free to place their units as described earlier in 3.1 – Creating a Template. Once the 2 commanders have completed the template halves the administrator merges them back together using the merge function. The merged template is then loaded into Scorched Earth and available for play.

3.2 – Loading your Template

After you have completed the template using the FMB send the mission and data files to the administrator. The administrator then loads the template into Scorched Earth. Commanders and players can then login and begin play.

3.3 – Template building tips

1. Start small. If you are unfamiliar with Scorched Earth or the FMB use one of the smaller maps first. There are fewer distractions on a smaller map.
2. Have a military situation and context in mind before you start. The defense of an eastern front bridgehead in the summer of 1942, the drive to Moscow in November 1941, or even the Battle of the Bulge are good examples.
3. Scorched Earth allows the commander to control ground and naval force forces as well as aircraft. Don't forget them!
4. Give the commanders clear objectives, and not necessarily contrary ones. Give one commander an objective say in the south east corner and his opponent an objective in the north west corner. This is an interesting change from the attack/defend same landmark.
5. Beware of small caliber (less than 80mm) anti-aircraft weapons. These small caliber weapons have somewhat high rates of fire and can cause frame rates to deteriorate rapidly.

6. You don't need to be 100% historically accurate all the time.
7. Don't overpopulate the map with different objects. Objects can give a scenario some added visual interest but don't overdo it.
8. Try to reuse the same objects as much as possible. For instance make all gun pits the same or reuse the same stand of trees in different facings and groupings.
9. Download some examples from the internet. Try them out and examine the templates in the FMB. Alternatively make some of your templates available for others to use.
10. Do not place units too close to the edge of the map. The DCS sometimes reads these units as off the map. This causes an empty sector to be created.

4.0 – The Interface

4.1 Commanders interface

After entering your commander username and password the overview map screen will be displayed.

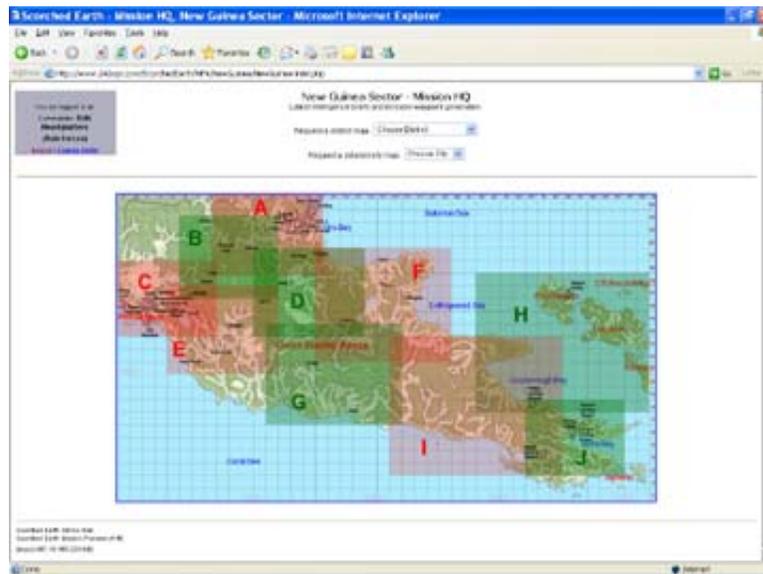


Figure 4 - Sector map

In order to view intelligence and unit dispositions it is necessary to select either a district or sector view. To do this either select a district on the map by clicking on the district letter or you can choose a district from the upper dropdown (see Figure 2) in the upper centre of the screen. (Note: If you want to view the entire sector the **ONLY** way you can is by selecting the entire sector from the dropdown menu.)

Once a selection has been made a more detailed map is displayed showing the location of your air and land forces. Known enemy forces are displayed on the map using icons (to see detailed information on the unit move your mouse cursor over the icon and information will be displayed in a pop up (see Figure 5 and Figure 6 below) and unconfirmed units are displayed by a question mark. If your land forces are currently moving their position may be an hour out of date due to the lag involved in receiving this information from the field. This is not a bug. It simulates the delay in information to your headquarters. Enemy units may be displayed along with a recon percentage detailing reliability or staleness of the intelligence. To view this information place your mouse over the icons on the map. A popup will appear containing the information. You

can also move your mouse cursor over airfields/factories/bridges and view details on those items as well.



Figure 5 – Friendly Unit Display popup

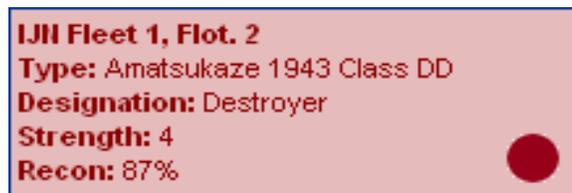


Figure 6 - Enemy Unit Display popup

Right clicking on the screen brings up a menu.

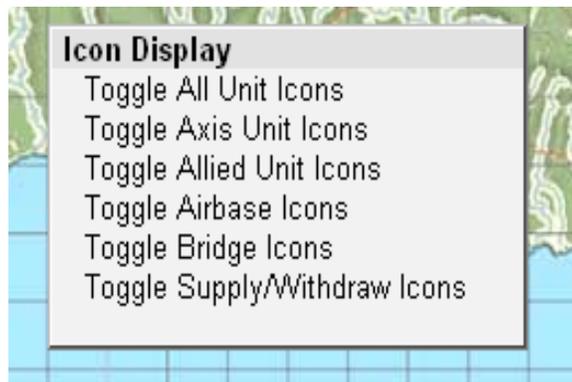


Figure 7 – Sector drop down menu

By selecting items from the menu you can control what is displayed on your map interface. All the choices above either display or hide icons on the map interface screen. The toggles are useful in helping the commander better view the battle field and plan their strategy. It is sometimes useful to hide your units in order to get a better idea of the disposition of the enemy forces or vice versa. Other toggles can aid in the planning of ground movement and the withdrawal of your forces into reserves.

Toggle All Unit Icons

Display or hide all unit icons for both enemy and friendly units. This can be helpful when there are a great number of units in an area and you would like to examine the status of airfields, bridges or industrial targets under a group of units.

Toggle Axis Unit Icons

Display or hide all axis unit icons even if you are the axis player.

Toggle Allied Unit Icons

Display or hide all allied unit icons even if you are the allied player.

Toggle Airbase Icons

Hide or display the icons for airfields.

Toggle Bridge Icons

Hide or display the bridge icons

Toggle Supply/Withdraw Icons

Hide or display the supply/withdraw Icons

A new MP will be released shortly that includes the ability to toggle friendly units according to role, e.g. armour, mechanized infantry etc.

4.1.1 Supply/Withdraw Points

A supply or withdraw point is a special point on the map where:

- air units can be withdrawn from the sector into the reinforcement pool (when scheduling this mission it is advisable the you let these planes remain AI controlled. Depending on the type of aircraft selected the positions may show up in the airplane selection screen. You may want to place a warning in the mission briefing section (see 5.0 – Plotting an Air Mission) for this group).
- air units can enter to top up understrength air units as reinforcements
- newly created air units can enter on a rebasing mission
- new land or sea units enter the game

Each unit type has its own supply and withdraw points. You cannot withdraw or create air units at a sea point.

4.1.2 Reinforcements

Reinforcements are made available by the administrator for this battle. Numbers and types of reinforcements are currently only available by request to the administrator. Future releases of Scorched Earth may contain the capability to receive automatic reinforcements.

On the left side of the screen is the Reinforcements button. If reinforcements are available the button will be lit and read the number of types of reinforcements you have available. In the below example you have 5 different reinforcement types available.



Figure 8 - Mission HQ Area

Click Reinforcement Types button and three buttons will appear below the reinforcement button. The choices are Naval, Land or Air. Select the type of reinforcement. Again only units made available by the administrator are available.

If selecting either Naval or Land you are now presented with a drop down list detailing the unit(s) available. Select the unit you wish to bring into play. Next select the unit size you wish to deploy 1-4. Finally select the supply point from which the unit will enter the game. Finally click on the Commit button. The unit will now appear on the supply point on the map interface to the right. You will now have to plot the units movement on the map interface. To complete this mission scheduling see 6.0 – Plotting a Land Mission.

When bringing in air units you have a couple of choices. You can top up depleted units with 1-3 aircraft of the same make, model and year. These replacement aircraft can be piloted if that make, model year are flyable within the game. The plots for these aircraft are direct from the supply point to the home airbase of the unit being topped up. These are air start missions, no takeoffs. The number available and the supply point are shown in the selection window. Check the box in the bottom right hand corner, next to the supply point name, to create a top-up mission. At this point the mission should be shown on the map interface. You can select multiple unit top-ups by selecting multiple checkboxes. If you are satisfied with your decision, click on the commit button. Also no

briefings may be entered for this mission type. An automated briefing is generated by SE.



Figure 9 - Air Unit Top-ups

To create new air unit click on the New Unit button. Three drop downs now appear. The first one is Commission Unit From. This drop down lists all your air supply points if any remain in your control. Air reinforcements are restricted by the administrator to specific air supply points. Once a source supply point is selected then make a choice from the Initial Deployment Locations. All airfields, friendly and enemy, are displayed in the list. Ensure that you choose an airfield under control of your forces for the destination. Finally select Unit Affiliation Details. In this drop down it lists all the air units available for deployment. Once you are satisfied with your choices, click the commit button. The mission is generated and an automated briefing is created. Depending on the type of aircraft chosen this can be a flyable mission, but you can force it to be AI only by selecting the “secret flight” option.



Figure 10 - Create New Air Unit

4.1.3 Withdrawals

To withdraw a unit from the sector plot a mission, or a series of missions in the case of land units, where the final waypoint is a valid withdraw point for the type of unit. For instance you can only withdraw air unit on air withdraw points. If you are creating an air withdraw mission I recommend that it be flown by AI only. I like to put a warning the briefing for this type of mission to notify the players not to pilot these planes. Using the secrecy option will ensure that no humans can pilot this flight.

Once a unit has been withdrawn it becomes available reinforcements. Air units may have to wait for the requisite rearming period before becoming available in the reinforcement pool. Naval and land units become available immediately.

4.1.4 Refueling and Rearming

Air units require rearming and refueling after every mission is flown. This time is variable between aircraft. While in this state the planes are not able to perform any missions. Keep this in mind when committing aircraft to missions. Refer to Appendix A – Axis Aircraft Data or Appendix B – Allied Aircraft Data for details on specific aircraft.

4.1.5 Plotting a Mission – General

To schedule a mission select the Create New button on the left hand side of the screen. Three drop down windows will now appear over the next few steps. The first

drop down allows you to select the unit for which you want to schedule a mission. Not all units are available at all times due to rearming, refueling and intelligence delays. Ground units take at least 1 mission after they have completed moving before they are again available for selection. Air units can take 1-4 hours before being available again. Now select the unit. The unit will now have a thick black outline on the map. If you are sure this is the unit you want, proceed. If not then select again from the dropdown window. If the unit you want to select is not available in the dropdown or no units are available then there are 2 possibilities. One is the unit you want to select is not in the currently displayed sector or district. Only units based or stopped in the sector map displayed on the right are available in the dropdown. If you want to see all units available click on the change hyperlink in just below the objectives briefing in the top left hand sector. This will return you to the sector selection screen. The other possibility is if you are already in view entire sector mode is that you have no available units this hour. If units will be available in 1 hour or more they are not selectable until the time they become available. You cannot plan missions until the squadron is rearmed or the land/sea unit has stopped moving for an hour.

The next drop down now appears. It allows you to select the number of aircraft/tanks/ships in this mission. The number will be from 1-4 depending on the number of vehicles, aircraft or ships either assigned to or remaining in that unit.

Special Note Regarding Recon Missions

If you are planning this mission as a recon mission only 1 plane is allowed, per flight, for a recon mission and it is an AI only plane. You can have multiple recon missions if you like but only 1 plane from each unit is allowed and no other planes from that unit can participate in until the unit has been rearmed after the recon mission has been flown, regardless as to the success of the mission. In other words if you have 4 B-25's in a unit and you want to fly a recon mission only 1 B-25 can take part. The other 3 are grounded and not able to fly. After the recon mission has completed all 4 B-25's (assuming the recon plane returned, if not then the 3 remaining) now have to refuel and rearm.

Using fewer than 4 Aircraft

If you select fewer than 4 aircraft for a mission, assuming you have 4 aircraft in the unit, results the fourth aircraft being unavailable until it has been refueled and re-armed. This will ground the unused aircraft for the same length of time as if it actually flew the mission. Naval and ground units are not affected by this restriction as they always move as a group.

The next drop down will now allow you to schedule the mission time. If you want the mission to be scheduled for the next time you generate a mission select Immediate Launch. Further choices are available to delay the launch up to 24 hours.

To complete your mission planning see either 5.0 – Plotting an Air Mission or 6.0 – Plotting a Land Mission

4.2 Read Only Interface

The read only interface to the Scorched Earth Online War is designed for the pilots on both sides to preview missions and briefings plotted by the mission commander. Each side has a predetermined level of intelligence information after the initialization of the template. This setting, dynamic reconnaissance, is available when a template is loaded and cannot be adjusted afterwards. This reconnaissance boost does not last beyond the first turn.

Once logged in you can now navigate to the various districts on the map or have the entire map displayed. Choose the map district either by clicking on the letter on the map interface or selecting the district from the drop down in the center top of the screen. The only way to access the view entire district is through the dropdown. After selecting a district a more detailed map is displayed. Icons will be displayed on the map provided that this is not toggled off. To change districts click on the change text just above the mission time in the upper left corner. You will now be returned to the district selection screen.

When a district map is displayed in the map window, information is displayed to the left in the Mission HQ area. Text Situation Map, Objectives is a text pad icon. Move the mouse pointer over the icon and the Sector Overview is displayed. To the right of the word objectives is a text pad icon. Moving the mouse pointer over the text pad, displays the overall objective(s) for your side, if they have been set by the administrator.

The time entry displays when the next mission will takeoff. This time will not change until the mission is flown and the results are analyzed. Pay attention to the time as the mission may be scheduled for anytime day or night. The text pad icon beside the time gives information regarding the last database event, either analyzing a mission or advancing the clock.

Below the Time display is the current weather information. This information may influence the kinds of missions requested by the commander. The text pad to the right of the weather information is the 24 hour weather forecast for 6 and 24 hours from the current game time. Note that each side (Axis or Allied) receives a potentially different weather forecast and outlook generated automatically by SE as part of its climate generator. By default, both sides have meteorological forecasts of similar *average* accuracy (about 75% accurate), but the forecasts are random and can *occasionally* be very wrong. The SE climate generator is fully customizable and supports different climatic settings for each sector.

All (enemy and friendly) land and sea icons are displayed with a 1 hour lag time. This is to simulate the fog of war.

4.2.01 Map interface

The map interface is the map displayed to the right of the mission planning tools. It consists of a map with icons displayed. Icon colour denotes friendly or foe. The icons and their unit type or meaning are shown below:

Unit Type/Legend	Map Icon (military style)
Recon (Air)	
Transport (Air)	
Bomber (Air)	
Dive Bomber (Air)	
Fighter (Air)	
Fighter-Bomber (Air)	
Seaplane (Air)	
AAA (Ground)	
Anti-Tank (Ground)	
Armour (Ground)	
Artillery (Ground)	
Engineers (Ground)	
Infantry (Ground)	
Mechanized Infantry	
Recon (Ground)	
Self-Propelled Artillery (Ground)	
Tank Destroyer (Ground)	
Aircraft Carrier (Naval)	
Battleship (Naval)	
Cruiser (Naval)	
Destroyer (Naval)	
Transport (Naval)	
Patrol Boat (Naval)	
Submarine (Naval)	
Train (Ground)	
Transportation (Ground)	
Truck (Ground)	
Train	
Unit Destroyed	
Disputed Airbase	

Unit Type/Legend	Map Icon (military style)
Unknown Unit	
Air Supply	
Air Withdraw	
Ground Supply	
Ground Withdraw	
Sea Supply	
Sea Withdraw	
Control Icons (1 per country)	    etc
Bridge, Destroyed	 , 
Factory, Destroyed	 , 
Fuel Dump, Destroyed	 , 

Table 2 - Unit and Map Icons

4.2.02 Viewing Missions

Any mission already in progress or currently scheduled can be viewed using the Mission Planning Tools on the left hand side. Ensure that you have the correct district displayed. Only the missions scheduled in the map district displayed in the drop down. To see all missions ensure that you have the entire district displayed. Click on either the Scheduled Missions button or the In Progress button. Each of the view buttons will list the number of missions viewable in the currently selected district. It is quite possible to have no missions scheduled in an individual district.

Missions in Progress are usually land units, but can be sea units too. If you select the check box the units' path is displayed on the map interface.

Scheduled missions can be any kind creatable by your commander within the limits of the IL-2 full mission builder. (Note: not all missions are supported at the time of writing this guide. No carrier operations of any kind are available). By checking the box beside a unit description its path is displayed on the map interface. For aircraft the waypoints are displayed on the map along with the task designations of the waypoint (Attack, Land, etc). Just to the left of the checkbox is a text pad icon. Moving the pointer over the pad displays the mission briefing for this flight. This may be auto-generated text in the case of reinforcements or withdrawals, or it is text entered by your commander as detailed instructions. This same text will appear in the mission briefing prior to flying.

5.0 – Plotting an Air Mission

This is by no means the only way to plot air missions, but I have found it to work consistently.

Once the mission time has been selected a waypoint list now appears. For aircraft the first waypoint is TKOFF (takeoff). Now click on the map where you want the next way point for the flight. Keep plotting until all your waypoints including one at the destination airfield have been plotted. If the mission is a ground attack mission ensure that one of your waypoints is over the target. Targets can be either factories, bridges airfields, ground units or objects. On your map ground units are represented by symbols. Simply move your mouse cursor over one to have the details on that unit displayed in a pop up. Some units may not be identified yet or you may have incomplete intelligence regarding that unit. It will appear as a question mark. Units spotted by human players are not plotted on the map. You can plot a waypoint where you think these units may have been seen. Ensure that you have at least 3 waypoints prior to a ground target (not including the ground target or takeoff waypoint) and at least 3 waypoints after the ground target waypoint prior to landing (minimum of 9 waypoints). This is a restriction of the IL-2 engine only. For air only missions only 3 waypoints are required before landing not including the takeoff waypoint or the landing waypoint (5 waypoints minimum). Also make sure you have enough waypoints and distance to climb to your desired altitude. The higher you want to climb the more waypoints you will need. I use a rule of thumb of 1 waypoint for every 500 meters

If you make a mistake when plotting a waypoint right-click on the map on the right hand side. A pop up list of choices will appear. Either select Reject Latest Waypoint to delete the last waypoint plotted or select Reject all Waypoints to erase all waypoints placed so far for this mission (see Figure 13 - Air Mission drop down).

Once you are happy with the placement of your waypoints now set the altitude for the individual waypoints. The waypoints are displayed on the left hand side of the screen. Depending on the number of waypoints plotted there may be a scrollbar. If you have to use the scrollbar until you can see the first waypoint. There are five pieces of information displayed for each waypoint Dist (Distance), ETA (Estimated Time of Arrival), Speed, Alt (Altitude), and Task. For waypoint 2 click on the Alt number for that waypoint. A box will be displayed in which to enter your desired altitude. Enter the altitude and press enter. You may get a message indicating the change in altitude is too extreme for the flight. The interface will then recalculate the altitude for you. Remember to ensure that enough waypoints are available for altitude changes. Move through your waypoints entering the altitudes for the planes. Ensure that near your airfield that the altitudes are descending. This ensures that any AI planes will be able to land easily.

You can also set the airspeed at each waypoint. This can be useful when combined with careful waypoint and altitude plotting. By adjusting the speeds of planes it is possible to route them to arrive at a target from differing directions and altitudes almost simultaneously. This is better attempted using AI planes to fly these missions. It

is quite difficult for human pilots to navigate these awkward and time sensitive flight plans.

Now let us deal with the tasks. If this is either a ground attack or recon mission you now set the waypoint tasks. Each waypoint can only have one of the following tasks assigned to it (task abbreviations (R,G,L,W,F)):

- (R)econ – the unit will take a picture of the area inside the recon circle. The higher the altitude the larger the circle photographed. However the higher the altitude the poorer quality of the image. You can have 1 recon waypoint per photo allowed to the plane type flying the mission. B25's for example have 10 photos available, therefore it could have 10 recon waypoints.



Figure 11 - Recon Capacity Pop Up

- (G)round Attack – You may only have one ground attack waypoint for a flight. Always place the waypoint over the intended target. If only 1 target is available in the vicinity it is immediately selected. If more than one target is available you will be given a choice when completing the orders for this mission.
- (L)and – This designates the landing waypoint. Always ensure that this waypoint is on a valid landing site. At time of writing only airfields on the map are valid landing sites. Setting a landing point on an enemy airfield and landing there will not capture the airfield for your side. Carriers are not yet valid takeoff or landing sites.
- (W)ithdraw- This waypoint is only valid for withdrawing units from the sector and into the reinforcement pool. Always let the AI fly these missions. The only valid placement of a withdrawal waypoint is on a withdrawal point on the map. To see the withdrawal points right click on the map and select show all from the menu. Around the edge of the map you will now see a series of icons. In order to withdraw a unit from the sector, plot its last waypoint on the withdrawal point. This unit will then become available in the reinforcement pool after the requisite time required for rearming. For more information on withdrawing units see 4.1.3 Withdrawals
- (F)ly – This is the default waypoint for air missions. It directs the plane to fly from its' previous waypoint to the next waypoint. It also indicates the altitude and speed to be maintained by these same aircraft. The type of AI reactions to spotted planes will vary according to your simulation and the experience level assigned to the AI pilot.

When assigning waypoint tasks I always leave assigning the Land task to the end. Once this task is assigned you will have to start again if you wish to alter the waypoints for this unit. If you don't explicitly set the LAND task on your last waypoint, the MP will do this for you when you right-click and select "Finalise Mission Orders".

After the landing task has been selected further options appear below the landing waypoint on the left hand side:

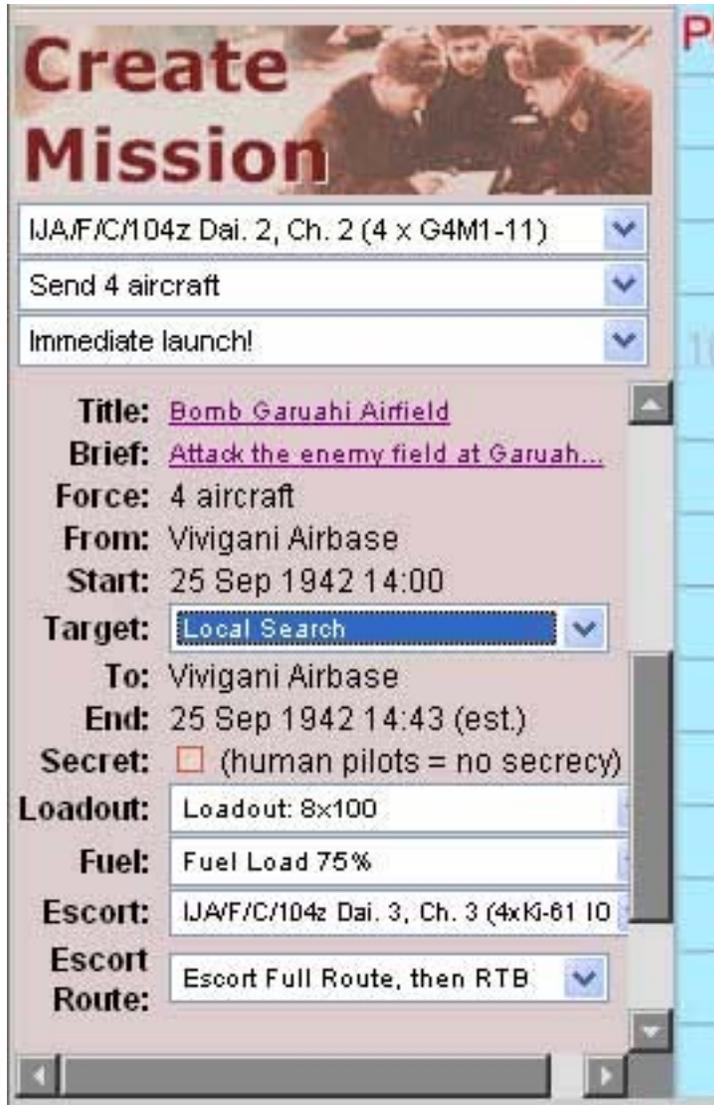


Figure 12 – Create Air Mission final choices

As you can see in Figure 12 there are more decisions to be made. General information is also displayed like the originating and destination airbases, the take off time and estimated landing times and the number of aircraft in this mission.

5.0.1 – Special steps for finalizing a Ground Attack Mission

If a ground attack task has been assigned to one of the waypoints then a target dropdown will be available. Here is where you select the target for your mission. If you have no intelligence on enemy units here or there are no bridges/industrial targets in the vicinity, you can select Local Search. In the example from Figure 12 Road Bridge 55 is the target of this Betty bomber mission.

You can also select initial load outs for the mission. Click on the load out dropdown and a list will appear showing all the available load outs for that make, model and year of the current aircraft. There is no check made to ensure that the correct munitions are selected. In other words it will let you take torpedoes to attack an airfield so ensure you have selected appropriate ordinance for the intended target. Players are free to change their load outs once the mission begins as long as the Enforce Aircraft Load outs setting (DCS Options:In-Game Environment) is unchecked when the coop mission is built.

Finally you can assign escorts for the ground attack mission. Click on the Escort dropdown and a list of available aircraft will be displayed. The drop down displays only the aircraft in the currently chosen map district. This means if you have the district A map displayed in the window, only the available escorts from district A are displayed. If using AI controlled escorts when flying this mission the escorted must fly in a manner that allows the escorts to protect them.

Now continue with the process in 5.0.2 – Steps for finalizing all air missions

5.0.2 – Steps for finalizing all air missions

If this is a fighter mission you can set the load out for the aircraft in the same way it is done for ground attack missions. For recon missions it is advisable to leave the load out as default.

Just below the landing waypoint are the title and brief for this mission. (see Figure 12 – Create Air Mission final choices). If you click on the “Enter briefing text here” link a window will pop up. You can then enter detailed instructions for this flight up to 1024 characters. If at all possible try to avoid using special characters. These instructions will be included in the briefings available to the friendly pilots prior to flying this mission. These briefings are viewable either through the scheduled missions button (see 4.2.02 Viewing Missions) or the briefings are included in the pre-flight briefings area. These briefings are included in the information generated by the Dynamic Campaign System (DCS) mission generator and are loaded when you run the mission. The title text can be manipulated in a similar fashion, but should be under 40 characters in length.

Now once you are satisfied, right click on the map interface screen on the right. The following menu is displayed:



Figure 13 - Air Mission drop down

This menu offers the all commands from the sector drop down, plus some specific air commands. You can set waypoints through this menu but I personally find it easier as described earlier. As mentioned earlier this menu allows you to erase the last waypoint or all currently plotted waypoints. Waypoints erased individually are done in descending order, last to first. You can also use this menu to set tasks for waypoints. You can only set the task for the latest waypoint.

The Yellow menu item Finalise Mission Orders is the next step in completing the mission creation process. Once selected choose the fuel load out. At time of writing after finalizing your mission the fuel load out is reset to 25% irregardless of any previous settings. Set the fuel load outs then scroll to the very bottom of the create mission window on the left hand side. Click on the Commit Mission button and your mission will be saved. Press the back to mission planner button to return to the map interface.

Alternatively, you could use the following sequence of steps if you prefer:

1. Click out your waypoints.
2. Go through them making sure the speeds, altitudes and tasks are what you want.
3. DO NOT set the LAND task, leave the final waypoint as FLY.
4. Right-click over the map and select "Finalise Mission Orders". This will automatically set your last waypoint to "LAND" at the nearest airfield or air supply point.
5. Now set up your title, briefing, loadout, fuel etc.
6. Finally, click the yellow "Commit" button.

Using this sequence means that you only have to click Finalise once, and Commit once. The fuel setting changes between Finalise clicks are thus avoided.

5.0.3 Canceling a mission

If you want to cancel out while in the process of creating a new mission, simply click on the refresh button which can be found on the left hand side.

On the other hand if you want to cancel a mission you have plotted, ensure that the map sector is displayed containing the unit whose mission you want to cancel. Click on the Scheduled Missions button. A list will now be displayed on the left hand side. Clicking on the check box of a unit selects the unit and displays the waypoints and tasks on the map interface. At the top of the list are 2 buttons: Cancel All and Cancel Selected. To cancel all missions click on the Cancel All button. To cancel only the missions you have checked in the list, click on Cancel Selected. You will be asked to confirm. If you reply Yes then the mission(s) are cancelled. Units in cancelled missions are released and ready to be used.

5.1 *Scorched Earth Mission planning hints and tips*

1. Always keep your victory conditions foremost in your planning.
2. Know your enemies strengths and weaknesses. Do not hesitate to take advantage of an opponents' misstep.
3. Fly to stay alive! Do not make suicide attacks unless you are sure of achieving your victory objectives for your army.
4. Do not become predictable. Change the flight paths and altitudes if attacking the same target over multiple missions.
5. Use your human reconnaissance. If your pilots report enemy contacts try to determine 3 things: their destination, their model and their target. You can use this information when plotting future fighter sweep missions!
6. Do not schedule too many missions. When playing missions online, using average priced equipment, with a high number of moving objects the frame rates WILL fall to as low as 2-4 fps. This is a limitation of the computers and the network linking them. A general consensus amongst the user community is no more than 20 scheduled missions/game hour.
7. Know which aircraft are AI only. If you are plotting a mission for AI planes there is no need to supply a briefing. This information is not generated out by the DCS.
8. Sometimes when laying waypoints for a mission left clicking on the map will not produce a waypoint. Try right clicking to bring up the map interface menu. Next dismiss the menu and try placing your waypoint again. If this does not work you will have to click on the refresh button and start again.

6.0 – Plotting a Land Mission

Once the mission launch time has been selected a starting waypoint is shown. Now click on the map to create a waypoint for the units' movement. Land and Sea based units can be given orders for up to 2 hours of in game movement time. When the mission is generated the unit will attempt to follow your plotted waypoints, tanks don't float and ships do not have wheels. If you plot a waypoint that will cause the plotted movement time to exceed 2 hours a message will be displayed and the plot disallowed. With each waypoint you can also set ship units' movement speed. Set the waypoint speed for each waypoint as you plot them. This allows for a more accurate determination of ETA.

Once you have completed plotting all the waypoints for the unit, right click on the map interface screen to display the Land unit mission menu popup

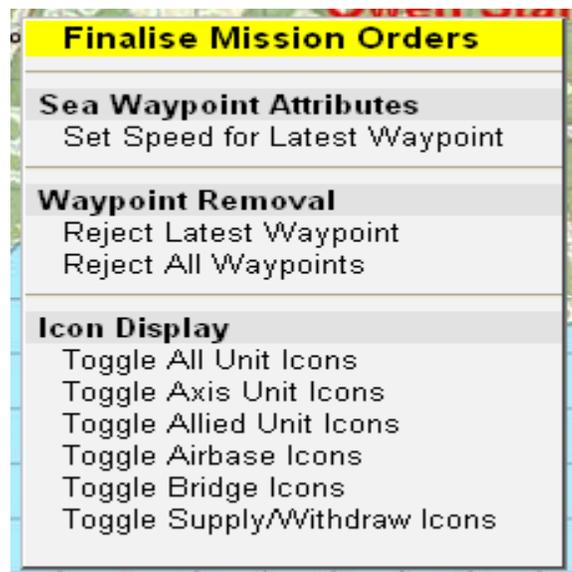


Figure 14 - Land/Naval Unit Drop Down

Select Finalise Mission Orders. On the left hand side a final orientation drop down and a button will appear (see Figure 15). The drop down allows you to set the unit facing after movement is completed. There are 8 compass choices for the facing direction: North, North-East, East, South-East, etc. Make a selection from the final orientation list then click on the Commit button. Your mission will be committed, click return and continue.



Figure 15 - Ground Mission Final

7.0 Scoring

After a mission has been flown the log file from that mission is analyzed using the DCS. During this process the scoring statistics are generated. Points are awarded only if you return to base and land successfully. Points for ground targets are ignored if the object destroyed is not the assigned target.

These statistics can be accessed by selecting the Campaign Statistics button on the sector screen. The available campaign statistics hyperlinks are displayed. To view the statistics for a sector click on the hyperlink.

The main statistics page details the number of missions run, the total kills/losses for each side, the cumulative stats and scores for all pilots who have participated so far, and hyperlinks to the individual mission scoreboards. The individual mission

scoreboards detail the types of units destroyed and who shot who information amongst other things.

8.0 Scorched Earth Ground War

The Scorched Earth Online War allows commanders to control the movement and facing of ground units in the campaign. Commanders also have the ability to create new ground units, based upon the availability of reinforcements. Without ground units a side is unable to capture ground objectives (bridges, airfields, etc) and move the frontline. Some maps do not contain ground unit supply points so no ground reinforcements are available to that commander.

8.1 Controlling facilities and moving the front line

Ground units are required for a side to gain control of a facility. A facility could be an airfield, a factory, a bridge or any other landscape object. Control is determined as follows:

- Are your ground units within 1 km of the facility?
- Are there enemy ground units within 1 km of the facility?

As long as there are enemy ground units within 1 km of the facility its status will be in dispute. The table below shows facility status based on ground units in the vicinity.

Ground Units Belong to:	Friendly Unit within 1 km	Enemy within 1 km
Friendly Unit within 1 km	Friendly controlled	In dispute
Enemy within 1 km	In dispute	Enemy controlled

Table 3 - Ground Facility Control

The front line is determined based on the control of ground facilities and by the locations of “controlling units”, i.e. aircraft, armour and mechanized infantry (halftracks)

8.2 Ground unit recon

Ground units provide reconnaissance information to the commander in a similar fashion to successful recon flights. When an enemy ground unit moves to within a unit’s spotting range a recon report is made. This report is generated by Scorched Earth and

will be marked on the map with the usual hour delay (if the enemy unit is spotted during the 06:00 mission you will see the report on your map interface for the 08:00 mission).

The spotting range examples are: mechanized infantry 5 kms and tanks 2 kms. Ships have a much larger spotting range but they can only detect other naval units.

8.3 Ground Unit Combat

Ground units will fight it out in the IL-2 missions flown as part of a campaign. The results of these combat engagements are read from the log file by the DCS when analyzing a mission. Combat results are subject to the 1 hour delay for all intelligence information from ground units. Unit destruction icons are placed on the map interface to aid the commander in planning missions.

9.0 Scorched Earth Administrator

First off, it is recommended that whenever possible a neutral third party should act as the administrator. This removes any claims of bias from either side. Alternatively both sides can agree on an administrator, but I would recommend that the administrator not be a commander for either side.

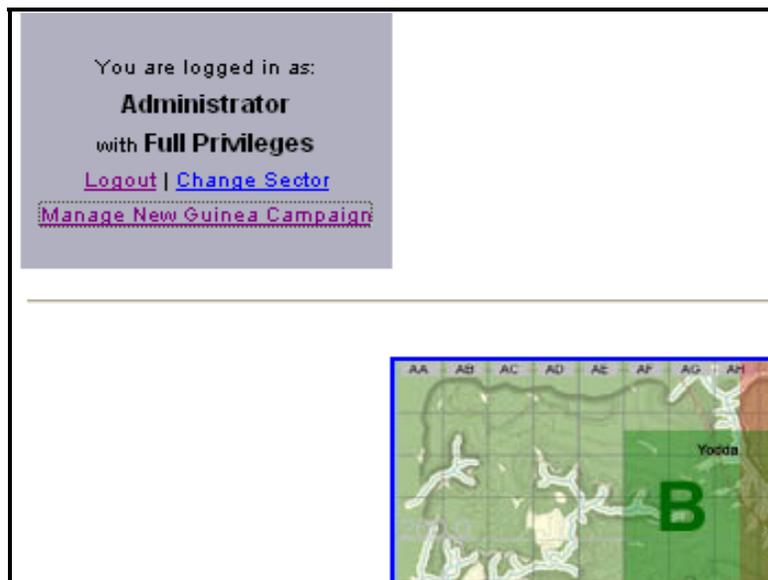


Figure 16 - Administrator Sector Management

After logging in to the administrator account the sector map screen is displayed. In the upper left hand corner there is now a new option available (Manage <Sector>

Campaign see Figure 16 above). The administrator also has the ability to perform all the functions available to both Axis and Allied commanders.

Upon selecting the Manage <Sector> Campaign link the following screen is now displayed:



Figure 17 - Manage Campaign Menu

By selecting the Objectives links the administrator can change the Sector overview text available to both sides. You can also change the sector objectives text for either side. The objectives and context text do not affect the game play in any way and are for information only. This text should not be altered without the complete agreement from both commanders. To change the text simply edit the appropriate text in place. Once you are satisfied with your changes click the save button.

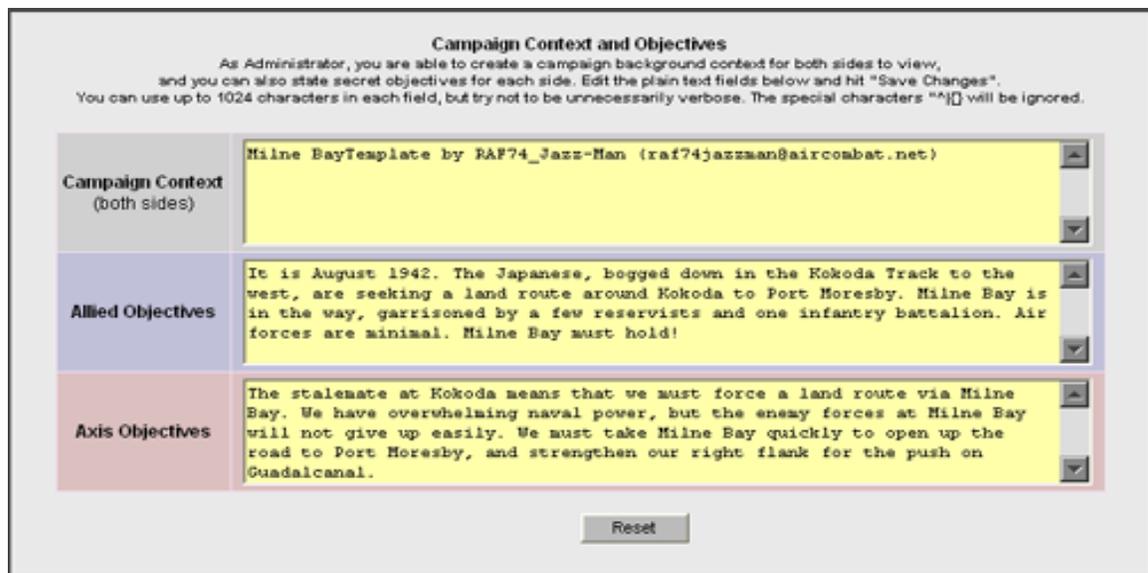


Figure 18 - Campaign Context and Objectives

The commanders link allows you to define the usernames and passwords for the administrator, commanders and read-only accounts for use with a particular database installation of Scorched Earth.



Figure 19 - Username and Password Administration

The reinforcements button allows the administrator to create air/land/sea reinforcements for both sides in the conflict. These reinforcements will be immediately available to the axis/allied commander. There are 3 different classes of reinforcements; Ground Forces, Naval, and Air. To change the type of reinforcement click on the description button above the reinforcement list. There is a check box in the upper right hand corner of the reinforcements window titled Historical Dates. When checked this feature limits the unit selections to those available during the current sector time. If you are playing Stalingrad in December 1942 then only units available on or before that date are included for selection.

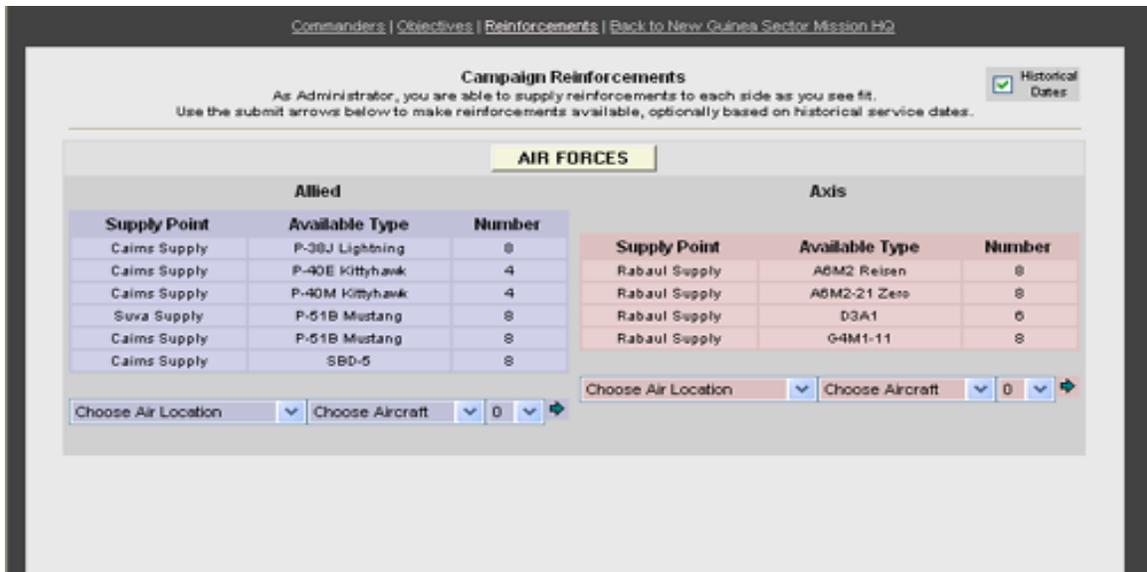


Figure 20 - Administrator Air Reinforcement

The reinforcement screen is split into two columns, one for allied and the other for axis. To create reinforcements select the originating Supply point from the drop down list for either the axis or allied side. Some maps do not have supply points for either ground or naval reinforcements. This is not a bug. For instance there are no Ground supply points on the New Guinea map. Only ground units included in the template are available. No new ground units can be created and existing units cannot be reinforced, unless the administrator edits the SE database to add new supply point definitions on the map. Select the type of unit to provide as reinforcements, this is usually provided as a request from a commander or from both commanders as a list of maximum reinforcements for both sides. Finally select the number available (1-64) from the dropdown. If you are satisfied with your selections click on the small right hand arrow next to the number of units requested. The drop downs will now be cleared and your selection will appear in the list of reinforcements.

You can only have one reinforcement group of each type of unit at each supply point. In Figure 20 the Allied player has two groups of P-51B – Mustangs, one entering from the Suva Supply and the other from Cairns Supply. You can have one group of eight if you wanted or you could have 1 group of four at one supply point and the other group of four at the other supply point. If you want to add more reinforcements of a particular type to a supply point select as if adding a new reinforcement but for the number available enter the total you want available, not the additional number of craft you desire. If you have 2 P-40E's at a supply point and you are requested to add 6 more P-40E's enter 8 for the number not 6.

Appendices

For ease of reference with the Scorched Earth Mission planner the aircraft designations match those found in the drop down lists. The Refueling Time column contains the total number of game hours required to refuel and rearm after flying a mission. The Recon Photo column details the number of Recon waypoints allowed for that plane.

Appendix A – Axis Aircraft Data

Aircraft	Type	Refueling Time (Hours)	Recon Photos
A6M2 Reisen	Fighter	1	1
A6M2-21 Zero	Fighter	1	1
A6M2-N Zero-Sen	Seaplane	1	1
A6M3 Reisen	Fighter	1	1
A6M5 Reisen	Fighter	1	1
A6M5A Reisen	Fighter	1	1
A6M5B Reisen	Fighter	1	1
A6M5C Reisen	Fighter	1	1
A6M7 62 Reisen	Fighter	1	1
A6M7 63 Reisen	Fighter	1	1
AR-196A-3	Seaplane	1	5
B239	Fighter	1	1
B5N2	Bomber	2	5
Bf-109E-4 Emil	Fighter	1	1
Bf-109E-4/B Emil	Fighter	1	1
Bf-109E-7/B Emil	Fighter	1	1
Bf-109E-7/Z Emil	Fighter	1	1
Bf-109F-2 Friedrich	Fighter	1	1
Bf-109F-4 Friedrich	Fighter	1	1
Bf-109G-10 Gustav	Fighter	1	1
Bf-109G-14 Gustav	Fighter	1	1
Bf-109G-2 Gustav	Fighter	1	1
Bf-109G-6 (Late) Gustav	Fighter	1	1
Bf-109G-6 Gustav	Fighter	1	1
Bf-109G-6/AS Gustav	Fighter	1	1
Bf-109K-4 Karl	Fighter	1	1

Aircraft	Type	Refueling Time (Hours)	Recon Photos
Bf-109Z	Fighter	1	1
Bf-110C-4	Fighter Bomber	2	5
Bf-110C-4B	Fighter Bomber	2	5
Bf-110G-2	Fighter Bomber	2	5
D3A1	Dive Bomber	1	2
Fi-156 Storch	Reconnaissance	1	5
Fiat Cr.42 Falco	Fighter	1	1
Fiat G.50 Freccia	Fighter	1	1
FW-189A-2 Uhu	Reconnaissance	1	10
FW-190A-4 Wuerger	Fighter	1	1
FW-190A-5 Wuerger	Fighter	1	1
FW-190A-6 Wuerger	Fighter	1	1
FW-190A-8 Mistel	Dive Bomber	1	1
FW-190A-8 Wuerger	Fighter	1	1
FW-190A-9 Wuerger	Fighter	1	1
FW-190D-9 1944 Wuerger	Fighter	1	1
FW-190D-9 1945 Wuerger	Fighter	1	1
FW-190F-8 Wuerger	Fighter	1	1
FW-200C3-U4 Kondor	Transport	3	10
G4M1-11	Bomber	2	10
Gladiator MkI	Fighter	1	1
Gladiator MkII	Fighter	1	1
Gotha 229A-1	Fighter	2	1
H8K-1	Seaplane	1	1
He-111H-2	Bomber	3	10
He-111H-6	Bomber	3	10
He-111Z	Transport	3	10
Heinkel 162-A2 Salamander	Fighter	1	1
Hs-129B-2 Panzerknacker	Dive Bomber	2	1
Hs-129B-3 Panzerknacker	Dive Bomber	2	1
IAR-80 BoPi	Fighter	1	1
IAR-81A BoPi	Fighter	1	1
J2M3 Raiden	Fighter	1	1
J8A	Fighter	1	1
Ju-52 3MG4E Tante Ju	Transport	2	10
Ju-52 3MG5E Tante Ju	Transport	2	10
Ju-87B-2 Stuka	Dive Bomber	1	1
Ju-87D-3 Stuka	Dive Bomber	1	1
Ju-87D-5 Stuka	Dive Bomber	1	1

Aircraft	Type	Refueling Time (Hours)	Recon Photos
Ju-87G-1 Stuka	Dive Bomber	1	1
Ju-88 Mistel	Dive Bomber	5	0
Ju-88A-4	Bomber	3	1
Ki-43 II KAI Hayabusa	Fighter	1	1
Ki-43-IA Hayabusa	Fighter	1	1
Ki-43-IB Hayabusa	Fighter	1	1
Ki-43-IC Hayabusa	Fighter	1	1
Ki-43-II Hayabusa	Fighter	1	1
Ki-46 OTSU	Bomber	2	10
Ki-46 OTSU HEI	Bomber	2	10
Ki-46 RECCE	Reconnaissance	2	10
Ki-61 IHEI Hein	Fighter	1	1
Ki-61 IKO Hein	Fighter	1	1
Ki-61 IOTSU Hein	Fighter	1	1
Ki-84-IA Hayate	Fighter	1	1
Ki-84-IB Hayate	Fighter	1	1
Ki-84-IC Hayate	Fighter	1	1
L2D	Transport	1	1
Macchi MC-202 Folgore	Fighter	1	1
Me-163B-1A Komet	Fighter	1	0
Me-210C-A1	Fighter Bomber	2	1
Me-210C-A1 Zerstoror	Fighter Bomber	2	1
Me-262A-1A Schwalbe	Fighter	2	1
Me-262A-2A Schwalbe	Fighter	2	1
Me-262A-2AU4 Schwalbe	Fighter	2	1
Me-321 Gigant	Transport	3	10
Me-323 Gigant	Transport	3	10
Morko Morane	Fighter	1	1
MS-406	Fighter	1	1
MS-410	Fighter	1	1
N1K1J Shiden	Fighter	1	1
N1K1JA Shiden	Fighter	1	1
Ta-152H-2	Fighter	1	1

Appendix B – Allied Aircraft Data

Aircraft	Type	Refueling Time (Hours)	Recon Photos
A-20G Boston	Bomber	2	5
B-17D Flying Fortress	Bomber	4	10
B-17E Flying Fortress	Bomber	4	10
B-17F Flying Fortress	Bomber	4	10
B-17G Flying Fortress	Bomber	4	10
B-24J-100 Liberator	Bomber	4	10
B-25C-25 Mitchell	Bomber	3	10
B-25G-1 Mitchell	Bomber	3	10
B-25H-1 Mitchell	Bomber	3	10
B-25J-1 Mitchell	Bomber	3	10
B-29 Superfortress	Bomber	4	10
Beaufighter MkXXI	Fighter Bomber	2	10
Bi-1	Fighter	3	1
Blenheim MkI	Bomber	2	5
Blenheim MkIV	Bomber	2	5
C-47 Dakota	Transport	2	10
F2A2 Buffalo	Fighter	1	1
F4F3 Wildcat	Fighter	1	1
F4F4 Wildcat	Fighter	1	1
F4G-1 Corsair	Fighter	1	1
F4U-1 Corsair	Fighter	1	1
F4U-1A Corsair	Fighter	1	1
F4U-1C Corsair	Fighter	1	1
F4U-1D Corsair	Fighter	1	1
F6F3 Hellcat	Fighter	1	1
FG-1D Corsair (MkIV)	Fighter	1	1
FM2 Wildcat	Fighter	1	1
G-11 Glider	Transport	1	0
Hawk 81A-2	Fighter	1	1
Hurricane MkIa	Fighter	1	1
Hurricane MkIIb	Fighter	1	1
Hurricane MkIIb Field Mod	Fighter	1	1
Hurricane MkIIc	Fighter	1	1
I-153 M62 Chaika	Fighter	1	1
I-153P Chaika	Fighter	1	1
I-16 Type 18 Ishak	Fighter	1	1

Aircraft	Type	Refueling	
		Time (Hours)	Recon Photos
I-16 Type 24 Drone	Fighter	1	1
I-16 Type 24 Ishak	Fighter	1	1
I-185 M71	Fighter	1	1
I-185 M82A	Fighter	1	1
IL-2 1940 (Early)	Dive Bomber	1	1
IL-2 1940 (Late)	Dive Bomber	1	1
IL-2 1941 (Early)	Dive Bomber	1	1
IL-2 1941 (Late)	Dive Bomber	1	1
IL-2 Type 3	Dive Bomber	1	1
IL-2 Type 3M	Dive Bomber	1	1
IL-2I	Fighter	1	1
IL-2M Early	Dive Bomber	1	1
IL-2M Late	Dive Bomber	1	1
IL-2T	Dive Bomber	1	1
IL-4	Bomber	3	10
IL-4 DB3B	Bomber	3	10
IL-4 DB-3F	Bomber	3	10
IL-4 DB3M	Bomber	3	10
IL-4 DB3T	Bomber	3	10
La-5 Lavka	Fighter	1	1
La-5F Lavka	Fighter	1	1
La-5FN Lavka	Fighter	1	1
La-7 (3xB20) Lavka	Fighter	1	1
La-7 Lavka	Fighter	1	1
LaGG-3 Series 29 Lavka	Fighter	1	1
LaGG-3 Series 35 Lavka	Fighter	1	1
LaGG-3 Series 4 Lavka	Fighter	1	1
LaGG-3 Series 66 Lavka	Fighter	1	1
LaGG-3IT Lavka	Fighter	1	1
Li-2	Bomber	2	10
MBR-2AM-34			
Razvedchik	Seaplane	3	10
MiG-3 (AM38)	Fighter	1	1
MiG-3 (Early)	Fighter	1	1
MiG-3 (ShVAK)	Fighter	1	1
MiG-3U	Fighter	1	1
MiG-3UB	Fighter	1	1
MiG-3UD	Fighter	1	1
P-36-A3 Hawk	Fighter	1	1
P-36-A4 Hawk	Fighter	1	1

Aircraft	Type	Refueling	
		Time (Hours)	Recon Photos
P-38J Lightning	Fighter	2	5
P-38L Lightning	Fighter	2	5
P-39D-1 Airacobra	Fighter	1	1
P-39D-2 Airacobra	Fighter	1	1
P-39N-1 Airacobra	Fighter	1	1
P-39Q-1 Airacobra	Fighter	1	1
P-39Q-10 Airacobra	Fighter	1	1
P-400 Airacobra	Fighter	1	1
P-40B Tomahawk	Fighter	1	1
P-40C Tomahawk	Fighter	1	1
P-40E Kittyhawk	Fighter	1	1
P-40E M-105	Fighter	1	1
P-40M Kittyhawk	Fighter	1	1
P-47D-10 Thunderbolt	Fighter	2	1
P-47D-22 Thunderbolt	Fighter	2	1
P-47D-27 Thunderbolt	Fighter	2	1
P-51B Mustang	Fighter	1	1
P-51C Mustang	Fighter	1	1
P-51D-10NA Mustang	Fighter	1	1
P-51D-5NT Mustang	Fighter	1	1
P-63C Kingcobra	Fighter	1	1
P-80A Shooting Star	Fighter	2	1
PBN1 Catalina	Seaplane	3	10
Pe-2 Series 1 Peshka	Dive Bomber	2	1
Pe-2 Series 110 Peshka	Dive Bomber	2	5
Pe-2 Series 359 Peshka	Dive Bomber	2	5
Pe-2 Series 84 Peshka	Dive Bomber	2	5
Pe-3 Bis Peshka	Fighter Bomber	2	1
Pe-3 Series 1 Peshka	Fighter Bomber	2	1
Pe-8 Peshka	Bomber	3	10
PZL P.11c	Fighter	1	1
R-10 Razvedchik	Reconnaissance	1	5
SB-2M-100A	Bomber	2	5
SB-2M-103	Bomber	2	5
SBD-3	Fighter	2	5
SBD-5	Fighter	2	5
Seafire MkIII	Fighter	1	1
Seafire MkIIIF	Fighter	1	1
Spitfire MkIXc	Fighter	1	1
Spitfire MkIXc (CW)	Fighter	1	1

Aircraft	Type	Refueling	
		Time (Hours)	Recon Photos
Spitfire MkIXe	Fighter	1	1
Spitfire MkIXe (CW)	Fighter	1	1
Spitfire MkIXe HF	Fighter	1	1
Spitfire MkVb	Fighter	1	1
Spitfire MkVb (CW)	Fighter	1	1
Spitfire MkVb LF	Fighter	1	1
Spitfire MkVb LF (CW)	Fighter	1	1
Spitfire MkVIII	Fighter	1	1
Su-2 Sushka	Bomber	1	5
TB-3 4M 34R (SPB)	Bomber	3	15
TB-3 4M-17	Bomber	3	15
TB-3 4M-34R	Bomber	3	15
TBM-3 Avenger MkIII	Fighter	2	5
Tomahawk MkIIA	Fighter	1	1
Tomahawk MkIIB	Fighter	1	1
Tu-2S Tushka	Dive Bomber	2	5
U-2VS Kukurznik	Reconnaissance	1	5
Yak-1 Yasha	Fighter	1	1
Yak-1B Yasha	Fighter	1	1
Yak-3 Yasha	Fighter	1	1
Yak-3P Yasha	Fighter	1	1
Yak-7A Yasha	Fighter	1	1
Yak-7B Yasha	Fighter	1	1
Yak-9 Yasha	Fighter	1	1
Yak-9B Yasha	Fighter	1	1
Yak-9D Yasha	Fighter	1	1
Yak-9K Yasha	Fighter	1	1
Yak-9M Yasha	Fighter	1	1
Yak-9T Yasha	Fighter	1	1
Yak-9U Yasha	Fighter	1	1
Yak-9UT Yasha	Fighter	1	1

Appendix C - Axis Ground Unit Types

Unit Name	Unit Type
88mm Flak 18	Artillery: Anti-Aircraft
20mm Oerlikon Flak 30	Artillery: Anti-Aircraft
Type 96 3x25mm AAA	Artillery: Anti-Aircraft
Type 2 2x25mm AAA	Artillery: Anti-Aircraft
Type 88 75mm AAA	Artillery: Anti-Aircraft
Type 94 37mm Field Art	Artillery: Anti-Aircraft
Type 98 20mm AAA	Artillery: Anti-Aircraft
50mm PaK-38	Artillery: Anti-Tank
Bunker A2	Artillery
Bunker A	Artillery
Bunker D	Artillery
Bunker S2	Artillery
150mm Howitzer 1918	Artillery
Sd.Kfz4/1 + 15cm Pzw	Artillery
Passenger Train	Rail: Civil Train
Cargo Fuel Train	Rail: Transport
Cargo Train	Rail: Transport
Cargo A Train	Rail: Transport
Cargo A Train AA	Rail: Transport
Cargo Train AA	Rail: Transport
Staff Train AA	Rail: Transport
Equipment A Train AA	Rail: Transport
Equipment B Train AA	Rail: Transport
Equipment C Train AA	Rail: Transport
Fuel Train/AA	Rail: Transport
Akagi Class CV	Ships: Aircraft Carrier
Carrier	Ships: Aircraft Carrier
Shokaku Class CV	Ships: Aircraft Carrier
Zuikaku Class	Ships: Aircraft Carrier
Battleship	Ship: Battleship
Tirpitz Class (BA)	Ship: Battleship
Murgesku Class	Ship: Cruiser
Akizuki Class DD	Ship: Destroyer
Amatsukaze 1941 Class DD	Ship: Destroyer
Amatsukaze 1943 Class DD	Ship: Destroyer
Amatsukaze 1945 Class DD	Ship: Destroyer
Arashi 1941 Class	Ship: Destroyer
Kagero 1941 Class DD	Ship: Destroyer

Unit Name	Unit Type
Nowaki 1941 Class DD	Ship: Destroyer
Nowaki 1943 Class DD	Ship: Destroyer
Yukikaze 1941 Class DD	Ship: Destroyer
Yukikaze 1943 Class DD	Ship: Destroyer
Yukikaze 1945 Class DD	Ship: Destroyer
Illmarinen Class CD	Ship: Destroyer
MFP Class	Ship: Destroyer
MFP-2 Class	Ship: Destroyer
Niobe Class	Ship: Destroyer
Vainamoinen Class CD	Ship: Destroyer
MAS-501 Class MTB	Ship: Patrol Boat/ Torpedo Boat
Minesweeper	Ship: Patrol Boat/ Torpedo Boat
MO-4 Class MTB	Ship: Patrol Boat/ Torpedo Boat
S-80 Class	Ship: Patrol Boat/ Torpedo Boat
Type VII C Class Sub	Ship: Submarine
Type VII C Class Sub/P	Ship: Submarine
Daihatsu Landing Craft	Ship: Transport
Fishing Junk	Ship: Transport
Fishing Junk Type A	Ship: Transport
Type 97 Chi-Ha 57mm	Tank: Standard Armor
Type 97 Chi-Ha Shinhoto 47mm	Tank: Standard Armor
Type 95 Ha-Go 37mm	Tank: Standard Armor
Type 95 Ha-Go Radio 37mm	Tank: Standard Armor
Type 4 Ho-Ro 150mm SPG	Tank: Standard Armor
Panzer IIF	Tank: Standard Armor
Panzer IIIG	Tank: Standard Armor
Panzer IIIJ	Tank: Standard Armor
Panzer IIIM	Tank: Standard Armor
Panzer IIIN	Tank: Standard Armor
Panzer IVE	Tank: Standard Armor
Panzer IVF	Tank: Standard Armor
Panzer IVF2	Tank: Standard Armor
Panzer IVJ	Tank: Standard Armor
Panzer VA Panther	Tank: Standard Armor
Panzer VIB Koenigstiger	Tank: Standard Armor
Panzer VIE Tiger	Tank: Standard Armor
Turan I	Tank: Standard Armor
Turan II	Tank: Standard Armor
Nimrod Flak	Tank: Anti-Aircraft
Wirbelwind 4x20mm Flak	Tank: Anti-Aircraft
Sturmgeschutz IIIG	Tank: Self-Propelled Gun
Sturmgeschutz IV	Tank: Self-Propelled Gun

Unit Name	Unit Type
Zrinyi II	Tank: Self-Propelled Gun
Ferdinand	Tank: Tank Destroyer
7.5cm Panzerjaeger 38 Hetzer	Tank: Tank Destroyer
Jagdpanther	Tank: Tank Destroyer
Sd.Kfz. 2 Kettenkrad	Vehicle: Mechanized Infantry
Sd.Kfz.3a + 2cm Flak 38	Vehicle: Mechanized Infantry
Sd.Kfz.251/1 Hanomag	Vehicle: Mechanized Infantry
BMW Motorrad	Vehicle: Transport
Armoured Column	Vehicle: Transport
Staff Fuel Column 18000 litres	Vehicle: Transport
Engineers Column	Vehicle: Transport
Fuel Column 2 15000 litres	Vehicle: Transport
Fuel Column 3 18000 litres	Vehicle: Transport
Type 1 Ho-Ha APC	Vehicle: Transport
Armoured Column (Japan)	Vehicle: Transport
Engineers Column (Japan)	Vehicle: Transport
Fuel Column 1 '15000 litres (Japan)	Vehicle: Transport
Type 95 Kurogane	Vehicle: Transport
Opel Blitz 3 6-36S	Vehicle: Transport
Opel Blitz 3 6-3700A	Vehicle: Transport
Opel Blitz 3 (Benzin) 6-3700A	Vehicle: Transport
Opel Blitz 3 (Sanitaet) '6-36S	Vehicle: Transport
Opel Blitz 3 (Funk) '6-36S	Vehicle: Transport
Sd.Kfz.3a-m. Gleisk 2t	Vehicle: Transport
Opel Kadett	Vehicle: Transport
Raupenschlepper Ost	Vehicle: Transport
Type 94 Truck	Vehicle: Transport
VW Typ 82 Kuebelwagen	Vehicle: Transport
VW Typ 82 (Open) Kuebelwagen	Vehicle: Transport

Appendix D – Allied Ground Unit Types

Unit Name	Unit Type
40mm Bofors UK	Artillery: Anti-Aircraft
40mm Bofors US	Artillery: Anti-Aircraft

Unit Name	Unit Type
40mm Bofors (UK'Stand)	Artillery: Anti-Aircraft
40mm Bofors (US'Stand)	Artillery: Anti-Aircraft
25mm 72-K AAA	Artillery: Anti-Aircraft
85mm 1939-K AAA	Artillery: Anti-Aircraft
.50cal M2 AAA	Artillery: Anti-Aircraft
Katyusha	Artillery: Anti-Aircraft
105mm M2A1 Artillery	Artillery: Anti-Aircraft
75mm M5 Artillery	Artillery: Anti-Aircraft
152mm ML-20 Howitzer	Artillery: Anti-Aircraft
US-6 + BM-13N Rocket	Artillery: Anti-Aircraft
76mm ZIS-3 Artillery	Artillery: Anti-Aircraft
Civil Train	Rail: Civil Train
Cargo Fuel Train	Rail: Transport
Cargo Train	Rail: Transport
Cargo A Train	Rail: Transport
Cargo A Train AA	Rail: Transport
Cargo Train AA	Rail: Transport
Staff Train AA	Rail: Transport
Equipment A Train AA	Rail: Transport
Equipment B Train AA	Rail: Transport
Equipment C Train AA	Rail: Transport
Fuel Train AA	Rail: Transport
Illustrious Class CV	Ships: Aircraft Carrier
Casablanca Class CVE	Ships: Aircraft Carrier
Carrier (US)	Ships: Aircraft Carrier
Essex Class CV	Ships: Aircraft Carrier
Intrepid Class CV	Ships: Aircraft Carrier
Kitkun Bay Class CVE	Ships: Aircraft Carrier
Lexington Class CV	Ships: Aircraft Carrier
Saratoga Class CV	Ships: Aircraft Carrier
Shamrock Bay Class CVE	Ships: Aircraft Carrier
Duke of York Class BB	Ship: Battleship
King George V Class BB	Ship: Battleship
Prince of Wales Class BB	Ship: Battleship
Marat Class BA	Ship: Battleship
Battleship (US)	Ship: Battleship
Aurora Class CA	Ship: Cruiser
Kirov Class CA	Ship: Cruiser
Indianapolis Class CA	Ship: Cruiser
Type 7 Class	Ship: Destroyer
Type 7 1944 Class	Ship: Destroyer
Tashkent Class DD	Ship: Destroyer

Unit Name	Unit Type
Dent Class DD	Ship: Destroyer
Fletcher Class DD	Ship: Destroyer
Kidd Class DD	Ship: Destroyer
OBannon Class DD	Ship: Destroyer
Ward Class DD	Ship: Destroyer
BBK-1 1943 Class MTB	Ship: Patrol Boat/ Torpedo Boat
BBK-1 1942 Class MTB	Ship: Patrol Boat/ Torpedo Boat
G-5 Klasse	Ship: Patrol Boat/ Torpedo Boat
Shuka Class	Ship: Submarine
Shuka Class (P)	Ship: Submarine
Submarine	Ship: Submarine
Submarine/P	Ship: Submarine
Gato Class Sub	Ship: Submarine
Gato Class Sub/P	Ship: Submarine
Greenling Class Sub	Ship: Submarine
Greenling Class Sub/P	Ship: Submarine
DUKW Amphibious	Ship: Transport
Landing Craft VP	Ship: Transport
LVT-2 Amphibious	Ship: Transport
Trawler	Ship: Transport
7TP jw	Tank: Standard Armor
BT-7-1	Tank: Standard Armor
IS-2 Iosif Stalin	Tank: Standard Armor
KV-1	Tank: Standard Armor
M3A1 Stuart	Tank: Standard Armor
M4A2 Sherman	Tank: Standard Armor
M4A2_76W Sherman	Tank: Standard Armor
M4A2_76W US Sherman	Tank: Standard Armor
M4A2 Sherman	Tank: Standard Armor
M5A1 Stuart	Tank: Standard Armor
Matilda MkII (Aus)	Tank: Standard Armor
Matilda MkII (UK)	Tank: Standard Armor
T-34	Tank: Standard Armor
T-34/85	Tank: Standard Armor
T-40S	Tank: Standard Armor
T-60	Tank: Standard Armor
T-70M	Tank: Standard Armor
Valentine MkII	Tank: Standard Armor
ZSU-37 37mm AAA	Tank: Anti-Aircraft
ISU-152 Zveroboy	Tank: Self-Propelled Gun
100mm SU-100 SPG	Tank: Self-Propelled Gun
76mm ZIS-3 SPG	Tank: Self-Propelled Gun

Unit Name	Unit Type
85mm SU-85 SPG	Tank: Self-Propelled Gun
BA-10	Vehicle: Mechanized Infantry
BA-64	Vehicle: Mechanized Infantry
M16 Half Track + Quad	Vehicle: Mechanized Infantry
M16 US Half Track + Quad	Vehicle: Mechanized Infantry
M3A1 Half Track	Vehicle: Mechanized Infantry
75mm M3 SPG	Vehicle: Mechanized Infantry
M3 Half Track	Vehicle: Mechanized Infantry
M3 Half Track Crewed	Vehicle: Mechanized Infantry
M8 Greyhound	Vehicle: Mechanized Infantry
ZIS-5 + 25mm AAA	Vehicle: Mechanized Infantry
Chevrolet Truck	Vehicle: Transport
Chevrolet Ambulance	Vehicle: Transport
Chevrolet Radio	Vehicle: Transport
Diamond T Truck	Vehicle: Transport
DUKW Amphibious	Vehicle: Transport
GAZ-67	Vehicle: Transport
GAZ-67 Open	Vehicle: Transport
GAZ-M1 Emka	Vehicle: Transport
LVT-2 Amphibious	Vehicle: Transport
Armoured Column	Vehicle: Transport
Fuel Column 27000 litres	Vehicle: Transport
Engineers Column	Vehicle: Transport
Artillery Column (Katyusha)	Vehicle: Transport
Artillery Column (BM-13N)	Vehicle: Transport
US-6 Studebecker	Vehicle: Transport
Armoured Column (US)	Vehicle: Transport
Fuel Column 18000 litres (US)	Vehicle: Transport
Engineers Column (US)	Vehicle: Transport
Willis MB Jeep	Vehicle: Transport
Willis MB Jeep (Open)	Vehicle: Transport
Willis MB Jeep US (Crewed)	Vehicle: Transport
Willis MB Jeep US (Open)	Vehicle: Transport
Willis MB Jeep US	Vehicle: Transport
ZIS-5 Ambulance	Vehicle: Transport
ZIS-5 Truck	Vehicle: Transport
ZIS-5 Radio	Vehicle: Transport
ZIS-6 Fuel	Vehicle: Transport

