



NAVAL WARFARE

1942 – 1945

Version 25 Sept 05

Introduction

Naval action is represented in the game in a very broad way. Given the timescale of each turn, naval action must be thought of as a whole series of operations within an operational area. Individual naval battles are not fought – the rules show the results of a naval ‘campaign’ over 2 months.



A key concept here is the central importance of a base. Operation on this global scale need considerable logistics, and therefore bases become more important than they might be in a more tactically focused game. All operations must be thought of as ‘out of a base’. If you don’t have a base within range you can’t successfully support operations.

In addition, air power is of critical importance to all naval operations. The hard lessons of 1940 and 1941 have been learned – primarily that no naval operation can hope to be successful without air support.

The Naval Rules are, in reality, two very nearly separate games – one about naval operations to achieve specific objectives, the other about allocating resources to the merchant global warfare battle. There are few – if any – circumstances, when these two aspects overlap, both in reality and in this game.

Sea Areas

The world map is divided into sea areas of approximately 1200-1600 kilometres (800-1000 miles) across.

Bases

The different type of base are:

- a. Port** – This can be used as a staging point for strategic movement or terminate merchant tonnage routes but cannot support operations. There are lots of ports.
- b. Fleet base** – The fleet base is the main support for sustained operations by all fleet units. Ranges for operation are always measured from the designated fleet base for that force.
- c. Fleet train** – A fleet train is treated as a Mobile Fleet Base. It requires a merchant route

from an existing fleet base to it, and that merchant route must be sufficient to support the fleet (see transport and supply below). Setting up a Fleet Train requires substantial dedicated merchant tonnage as well as additional manpower and LSP.

Units

We have simplified the whole complex and technical business of naval forces into a relatively small number of basic units:

Aircraft – nearly all types of combat aircraft including fighters, fighter-bombers, tactical bombers etc. An aircraft point represents approximately 250 aircraft, and factors in a training element, replacements as well as those in the front line. These can be based on land or on carriers.

Heavy Ship Group - 4 ships – battleships, battle cruisers and heavy cruisers, along with their escorting light units. This unit has no integral aircraft and is therefore very vulnerable to air attack.

Fleet Carrier Group – 2 fleet carrier plus their escorting light units. This unit carries a single Air Point.

Escort Carrier Group – 4 escort carriers with their associated escort groups. This unit carries a single Air Point.

Light Cruiser Force - 6 light cruisers. It has no aircraft.

Escort Force – a mixed unit of approx 30 escorts and/or destroyers.



Submarine flotilla – A force of 20 submarines

Landing Craft Group – a large group of assorted specialized landing craft and ships capable of bring land troops to bear. Essential for capturing islands or delivering troops into the Land Combat against opposition. One group can land up to 2 manpower / tank points.

Logistic Support Points (LSP) – this represents the thousands of tonnes of stores, fuel and ammunition needed for major operations. It is NOT possible to conduct NAVAL operations without LSP. LSP are consumed when used (obviously). These have to be delivered to Fleet bases by merchant tonnage. LSP can only be deployed to naval forces from Fleet Bases or a Fleet Train.

Garrisons – these are smaller sized forces that are static and used to hold key locations, like islands, ports etc. They have to be attacked conventionally to remove, and are treated as a single manpower point for that purpose. The number of Garrisons available is given in the National Briefing.

Unit Characteristics

Each of these units has three characteristics:

Fleet Operations: the combat value (CV) of the unit when engaged in fleet operations.

Commerce Attack: the combat value of the unit when attacking merchant shipping

Commerce Defence: the combat value of the unit when escorting merchant shipping and defending it

These ratings are marked on the unit counters.

<i>Unit Type</i>	<i>Fleet Operations</i>	<i>Commerce Attack</i>	<i>Commerce Defence</i>
Fleet Carrier Group	1	0	0
Escort Carrier Group	1	0	0
Heavy Ship Group	5	4	2
Light Cruiser Force	3	4	4
Escort Force	1	1	2
Allied / German Submarine flotilla	1	3	0
Japanese Sub Flotilla	1	0	0
Landing Craft Group	0	0	0
Air Point launched from Land or Fleet Carrier	10	4	6
Air Point launched from Escort Carrier	3	4	5
Strategic Bomber Point (from Land)	10	6	8

Operational Range

Naval units can operate up to 4 areas from a base

Most Air has an operational range of 0, (that is they operate in the same sea area as their base/carrier).

Japanese land based Air has a range of 1.

This range may increase during the game for some nations.

Strategic Air has an operational range of 1, rising to 2 later in the war.

Turn sequence

In each turn, the naval players will carry out the following sequence:

1. Move supplies (including LSP) using Tonnage points left over from the previous turn.
2. Add new ship production to nearest fleet base to the shipyard.
3. Strategic base to base transfers. Units that do this may not also conduct operations of any sort that turn). Strategic moves can be of any length. Place strategically moved unit counters on an 'In Port' Card.
4. Allocate available tonnage points to merchant routes. New merchant routes can be created by diverting tonnage points to them.
5. Allocate units available (i.e those not conducting strategic moves) to

- a. merchant shipping protection **or**
 - b. task forces **or**
 - c. attacking merchant shipping.
6. Allocate Naval Operations Flags to the map area you wish to conduct any specific operations in.
 7. Play Advantage Cards
 8. Assess results of Naval Operations
 9. Calculate effects of Merchant Warfare
 10. Update repairs on damaged units that have spent the turn in a Fleet Base.

Advantage Cards

During the war there were many important innovations in tactics, operational doctrine, technology etc – as well as surprises and successful deceptions. We are simplifying this whole complex subject into a set of **Advantage Cards**.

Each team in the game is given a set of these cards at the start, and they can be used in the combat system to influence the outcome. Multiple cards can be allocated to gain cumulative effects.

No more cards are issued during the course of the game.

Each card may only be played ONCE and after use is discarded. So it is important to think carefully when you wish to play them.



An Advantage Card can be used on **ONE** of the following ways.

- Provide an Extra Naval Offensive Flag for one turn only.
- Extend the range of one Task Force by one sea area for one turn only.
- Add to Combat Die roll for a single attack – the value on the card is the amount you can add to your die roll.
- Shift combat results by one column in your favour
- Some other advantage outside the rules at the discretion of Game Control.

There is no limit to the number of cards you can play at once. Advantage Cards may also be played on behalf of Allies.

Naval Operations Flags

The Navies of each nation have a number of ‘Naval Operations Flags’. This number is limited and represents the nation’s naval infrastructure and capacity to organise and conduct major operations. The number available will vary with time, and according to other factors such as weather – it is harder to organise operations in the winter, for example.

The exact number of flags awarded are given in the team briefing. There are also Military Offensive Flags for major army/air operations. An amphibious operation will require both a Naval flag and a Military flag.

The Naval Operations flag is placed on the force that is conducting the operation. The **only units** that can be used for operations are those where an Operations Flag has been placed.

Merchant escort and submarine operations **do not** need a Flag – they have their own system. Surface raider attacks on merchant routes **do** require a Flag and count as Naval Operations.

Conducting Operations

In the period of this game, the main focus of operations is on conducting invasion or occupation operations. Nearly every major naval encounter after 1941 took place in the context of some sort of attempt to capture an island or invade somewhere.

Naval forces are allocated to Task Forces (TF). A **Task Force Card** is created, onto which is stuck the ship counters of the force. The total Fleet CV is written on the card and a TF Counter placed on the Map.

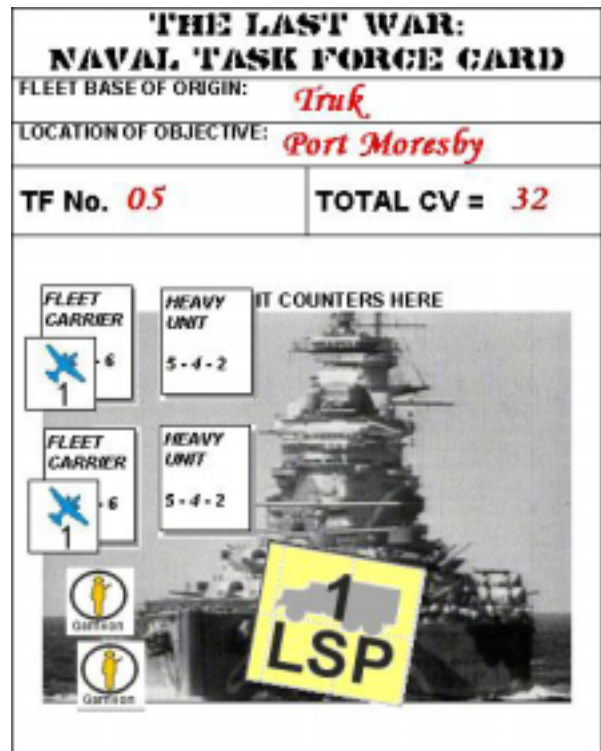
Forces can be left out of a TF (for example if they are damaged), and these are deemed to be ‘In Port’. These units are stuck on a ‘Forces in Port Card’ with the name of the port written on it.

A TF can only be sent to conduct an operation if it has an accompanying Naval Operations Flag (NOF) AND it has **at least one** Logistics Support Point (LSP) available to it at its base.



Naval Combat occurs if an enemy TF within range opposes the Operation.

Any enemy TF within range may choose to intervene - the intervening TF does not need a NOF to do this, but it **does** also need an LSP available to it.



Typically the naval operation includes an amphibious element. An amphibious operation always requires the following:

1. A TF allocated at the Covering Force.
2. A TF allocated as the invasion force
3. A single NOF for the naval element of the operation (covers both Covering and Invasion force).
4. If the amphibious operation is major (= landing into a hex marked on the Land Combat Map) then an additional Military Operations Flag is required (see Land Combat Rules).

Amphibious Operations

Amphibious operations take two forms

- a. **Minor Invasion** – involving an island or somewhere not covered by a Land Combat map
- b. **Major Invasion** – delivering troops into the Land Combat Map.

In an invasion all naval units and air units in the supporting Task Force can be added into the invasion CV, with the exception of submarines.

Minor Invasions

Typically, a defended island will have a garrison counter and possibly an Air Point.

Use the following Combat values for land troops, in addition to the CV of the TF allocated to Invasion.

Manpower point	8
Tank Point	6

Use the Naval Combat results table. If the attacking land forces are wiped out then the landing was unsuccessful.

If the attacking land forces are not wiped out, then the landing is successful and the surviving defenders and Air Points are removed.

Garrison counters and Air points do not take step losses, they are removed at the first step.

Major Invasions.

The forces to be landed are recorded on a standard manpower card, and tanks and aircraft exchanged for tank and aircraft counters as used in the Land Combat rules. These are then placed on the Land Map and control is normally handed over to Army players.

Land Combat rules are used to determine the outcome of the invasion (see land Combat Rules). The Invasion TF is counted as support to the landings (if not engaged by enemy TF interfering)

Note that once ashore, troops will require logistic support from merchant tonnage points brought in along a merchant route, so a port is essential.

Naval Combat

Damage

Ship Units can be in one of three states – undamaged, damaged or sunk.

Losses are in steps. So a loss of one converts an undamaged to a damaged or a damage to a sunk.

Owner chooses which ship losses to take from their Task Force.

So if your TF consisted of just one heavy Ship Unit and took 2 steps of losses, then that unit will be sunk.

Damaged Carrier units cannot carry their air unit any longer – this must be transferred to land or another carrier unit with no air point.

Damaged units may be used in combat, but all their combat values are reduced by half rounded down).

Damage Calculations

Total the Combat Value available and roll 1d6, plus die rolls for losses inflicted.

For CV of more than 20, roll 1d6 for each multiple of 20 or part thereof.

- 1 if outnumbered 2 : 1
- 2 if outnumbered 3 : 1 or more
- +2 with Air supremacy (3 : 1 or more in air points)
- 2 with Air Inferiority (outnumbered 3 : 1 in air points)
- +1 if in same area as fleet base
- 3 No LSP allocated to the Task Force
- 2 Minor Invasion with no specialised landing craft
- +1 if outnumbering 2 : 1
- +2 if outnumbering 3 : 1 or more
- +2 more than 1 LSP per unit in TF

Combat Value	D6 Die roll														
	-2 or less	-1	0	1	2	3	4	5	6	7	8	9	10	11	12 +
1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1
2	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
3	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
4	0	0	0	0	0	0	1	1	1	1	1	1	2	2	2
5	0	0	0	0	0	1	1	1	1	1	2	2	2	2	2
6	0	0	0	0	1	1	1	1	1	2	2	2	2	2	2
7	0	0	0	0	1	1	1	1	2	2	2	2	2	2	2
8	0	0	0	1	1	1	1	2	2	2	2	2	2	3	3
9	0	0	0	1	1	1	2	2	2	2	2	3	3	3	3
10	0	0	1	1	1	2	2	2	2	2	3	3	3	3	3
11	0	0	1	1	1	2	2	2	2	3	3	3	3	3	3
12	0	1	1	1	2	2	2	2	3	3	3	3	3	3	3
13	0	1	1	1	2	2	2	3	3	3	3	3	3	4	4
14	0	1	1	2	2	2	2	3	3	3	3	4	4	4	4
15	0	1	1	2	2	2	3	3	3	3	3	4	4	4	4
16	1	1	2	2	2	3	3	3	3	3	4	4	4	4	4
17	1	1	2	2	2	3	3	3	3	4	4	4	4	4	5
18	1	2	2	2	3	3	3	3	4	4	4	4	4	5	5
19	2	2	2	2	3	3	3	3	4	4	4	4	5	5	5
20	2	2	2	3	3	3	3	4	4	4	4	4	5	5	5

The side that has lost the most combat value must withdraw and has lost. In the event of equal losses, the side with the highest CV at the end is the winner.

Repairs

Damaged units can be repaired at any Fleet Base. One base can repair one unit per turn. In order to qualify for repair, the unit must be on the appropriate Port Card.

Merchant Warfare

This is a complex issue, which we have massively simplified. We have, for example, ignored route concurrence as well as a whole host of other factors.

Economic Route Chart

Merchant routes are marked on the map and recorded separately. For the route to be effective, both ends of it must be in your hands or the hands of your allies, and uncontested, at the start.

Each route is also recorded separately on a master chart. This chart shows the number of Tonnage Points allocated to that route. (Each tonnage point is approximately 100,000 tonnes), and the unit counters of the forces allocated to defending and attacking the route. This chart is maintained by naval map control. See example at Annex B.

FLEET BASE OF ORIGIN: <i>Portsmouth</i>							
Merchant Route (write name/number)	Escort Counters (tick counters below)						
<i>UK- Argentina</i>	<table border="1"> <tr> <td>Escort COUNTER</td> <td>Escort</td> <td>Escort</td> </tr> <tr> <td></td> <td>T-T-2</td> <td>T-T-2</td> </tr> </table>	Escort COUNTER	Escort	Escort		T-T-2	T-T-2
Escort COUNTER	Escort	Escort					
	T-T-2	T-T-2					
<i>UK-US Atlantic</i>	<table border="1"> <tr> <td>Escort</td> <td>Escort</td> </tr> <tr> <td>T-T-2</td> <td>T-T-2</td> </tr> </table>	Escort	Escort	T-T-2	T-T-2		
Escort	Escort						
T-T-2	T-T-2						
<i>UK-Gibraltar</i>	<table border="1"> <tr> <td>Escort</td> <td>Escort</td> </tr> <tr> <td>T-T-2</td> <td>T-T-2</td> </tr> </table>	Escort	Escort	T-T-2	T-T-2		
Escort	Escort						
T-T-2	T-T-2						

In the case of a Fleet Train – the train itself must have a separate merchant route running to it from a mainland Fleet Base (see Fleet Train, above).

Some routes are longer than others, so the effective tonnage points are reduced accordingly.

Any type of unit can be allocated to the merchant warfare action in either attack or defence, though some are better at it than others.

New merchant routes can be created, and tonnages allocated as required.

This is particularly so when forward bases and military forces have to be supported overseas.

Supply Effectiveness

Length of Route in Sea Areas	Effect of on transportation
Start and finish in same sea	Double amount that can be transferred.
1 to 6 sea areas	Standard amounts can be transferred
7+ sea areas	Half capacity

Transportation and Supply

One Tonnage point on a route can:

- Move 1 Manpower / Tank / Aircraft point
- Transfer 1 raw material, oil or food point (see economic rules)
- Transfer any number of Tungsten, Aluminum or Rubber points from the same resource area.
- Move half a Logistic Support Point (LSP) (2 points needed per LSP)

Deployments

Forces allocated to the merchant warfare battle are allocated to one of the specific named routes. Each side places units counters on a card indicating the routes to be protected or attacked.

Surface raider attacks on shipping require a Naval Operations Flag, and are counted as Naval operations in every sense – for example they can be intercepted by any operational TF within range as well as have to fight the allocated escorts.

The forces attacking the merchant route can choose which sea area to operate . They will engage whatever defensive forces are within range of that area. So, in the Atlantic at the start of the game, the Germans might choose to intercept the trans-Atlantic merchant route in the mid Atlantic sea area, out of range of land-base air units. They would still, however, have to engage any escorts, which would be easily within range.

FLEET BASE OF ORIGIN: <i>Brest</i>	
Merchant Route (write name/number)	Submarine Counters (stick counters below)
<i>US-UK Atlantic</i>	Sub 1-3-8 Sub 1-2-8 Sub 1-2-8
<i>UK-USSR Arctic</i>	Sub 1-3-8 Sub 1-3-8 Sub 1-3-8

Calculating Losses

If there are interdicting forces allocated to a merchant route, then there is a combat between allocated escort forces and the interdicting force. Combat is from the point of view of the interdictor. Take Escort CV and Interdicting CV as combat odds.

If the interdictor has odds of less than 1:3 then there is no combat.

Roll 1d6 per side, subtract escort score from interdictor's score.

Column shifts

Air Supremacy (3 : 1 or better) in area = 2 column shift in favour

Outclassed by surface raider = 2 column shift disadvantage. (Heavy Unit outclasses Light Cruiser Unit, Light Cruiser Unit outclasses Escort unit).

Advantage Cards count as die roll bonus shown on card.

Dice result	1:3 or less	1:2	2:3	1:1	3:2	2:1	5:2	3:1	4:1 or more
-6 or less	R	R	R	R	O	O	O	Y	Y
-5 / -4	R	R	R	O	O	O	Y	Y	B
-3 / -2	R	R	O	O		Y	Y	B	B
-1	R	O	O	Y	Y	Y	B	B	G
0	O	O	Y	Y	Y	B	B	G	G
+1	O	Y	Y	Y	B	B	G	G	G
+2 / +3	Y	Y	B	B	B	G	G	G	G
+4 / +5	Y	B	B	B	G	G	G	G	G
+6 or more	B	B	B	G	G	G	G	G	G

	Raider Step Losses as % of enemy CV		Escort Step Losses as % of enemy CV	Tonnage losses from German Subs	Tonnage Losses from all other attackers
	Surface	Subs			
Red (bad)	40%	20%	10%	Nil Merchant losses	Nil Merchant losses
Orange	30%	10%	20%	Merchant losses 1 per 2 interdicting units (round down)	Nil Merchant losses
Yellow	20%	10%	20%	Merchant losses 1 per interdicting unit	Merchant losses 1 per 2 interdicting units (round down)
Blue	10%	10%	20%	Merchant losses 2 per interdicting unit	Merchant losses 1 per interdicting unit
Green (Good)	10%	NIL	30%	Merchant losses 3 per interdicting unit.	Merchant losses 2 per interdicting units
ALL LOSSES IN STEPS					

Examples of Calculating Merchant Warfare Losses

Example One : 4 German Submarine Flotillas vs. 2 Escort Forces.

German Subs have a CV of $4 \times 3 = 12$

RN Escorts have a CV of $2 \times 2 = 4$

Odds 3:1 in favour of the subs.

On d6, Germans roll 1, RN roll 2, difference of -1, which is a BLUE result.

The merchants lose 4×2 per sub = 8 Tonnage points.

The escorts lose $20\% \times 12 = 2.4$ – round down to 2 step points loss.

The subs lose $10\% \times 4 = 0.4$ – round down to 0 step losses.

The RN Escorts take a damage on each and limp back to port for repair.

Example 2 : 8 German Submarine Flotillas vs. 1 Escort Carrier Group, Light Cruiser Force and 4 Escort Forces.

Germans Subs have a CV of $8 \times 3 =$ Total 24

RN Escorts have a CV of $4 \times 2 = 8$

Light Cruiser Force has a CV of 4

Escort Carriers have a CV of 6

Total 18

Odds 1:1, since the Subs haven't quite managed to achieve 3:2.

On d6, Germans roll 3, RN roll 1, difference of +2, which is a BLUE result.

The merchants lose 8×2 per sub = 16 Tonnage points.

The escorts lose $20\% \times 24 = 4.8$ – round down to 4 step points loss.

The subs lose $10\% \times 18 = 1.8$ – round down to 1 step loss.

The RN player decides to take damage on the escorts - so all 4 take a single damage on each and limp back to port for repair.

One of the sub units is damaged.

Example 3: 4 US Submarines vs. unprotected Japanese merchant route.

US Subs have a CV of $4 \times 3 = 12$

Japanese have a CV of Zero.

This is automatically at the top of the scale, a 4:1 or more odds result.

Japanese roll 2, US Subs roll 5, a score of +3

This is a GREEN result

The Japanese lose 2 per sub $\times 4 = 8$ Tonnage points from the trade route.

The US Forces lose nothing.

Starting Naval Balance Jan/Feb 1942 (Turn 1)

Unit Type	USA	Germany	Italy	UK & Commonwealth	Japan	Free French	Netherlands	Vichy French	USSR
Fleet Carrier Group	3	0	0	4	5	0	0	0	0
Escort Carrier group	0	0	0	0	0	0	0	0	0
Heavy Ship Group	8	2	2	7	7	1	0	0	0
Light Cruiser Force	3	1	2	8	5	1	1	2	0
Escort Force	1	0	6	12	1	1	0	2	3
Submarine flotilla	4	10	4	3	4	0	1	2	1
Tonnage Points	95	20	9	213	56	2	8	6	2
Logistic Support Points (Naval Only)	4	1	0	4	9	0	0	1	0
Landing Craft Group	0	0	0	0	0	0	0	0	0

Annex A : Fleet Bases

United Kingdom and Commonwealth

Scapa Flow	Portsmouth	Gibraltar
Plymouth	Malta	Simonstown (Cape Town)
Alexandria	Bombay	Singapore
Freetown (Sierra Leone)	Calcutta	Sydney
Melbourne	Adelaide	Halifax, Nova Scotia
Trincomalee	Bermuda	Vancouver
King George Sound (W Australia)		

USA

Norfolk (Chesapeake Bay)	Guantanamo Bay	Newport Rhode Island
Charleston	Balboa (Panama Pacific)	Colon (Panama Atlantic)
Pascagoula (Mississippi)	San Diego	Pearl Harbour (Hawaii)
Guam		

Japan

Nagasaki	Masanpo (Seoul)	Truk
Port Arthur	Maku (islands west of Formosa)	
Ominato (northern tip of Honshu)		Saigon (after Turn 3)

Germany

Kiel	Wilhelmshaven	Danzig
Kristiansand	Trondheim	Gotenhafen (Gdynia)

Italy

Naples	La Spezia	Cagliari (Sardinia)
Taranto		

USSR

Murmansk	Vladivostok
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note: only Arctic and Pacific fleets are being played

France

Casablanca	Tunis	Dakar
Libreville (W coast of Africa)	Djibouti (French Somaliland)	Toulon
Beirut	Brest	Diego Suarez
Martinique		

Netherlands

Batavia	Surabaya	Sabang
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Spain

Cadiz

Greece

Athens

ANNEX B : EXAMPLE MERCHANT ROUTES CHART

(Note: Figures shown are for example only)

Serial	Route	Tonnage Points	Length of Route	Effective Lift
1.	US/Can to UK Atlantic	50	Med (x1)	50
2.	UK/Alexandria Via Cape	10	Long (x1/2)	5
3.	UK - Argentina	20	Long (x1/2)	10
4.	UK – South Africa Via Atlantic	10	Long (x1/2)	5
5.	UK – Australia Via Panama	30	Long (x1/2)	15
6.	UK – India Via Cape	20	Long (x1/2)	10
7.	UK – Singapore Via Cape	30	Long (x1/2)	15
8.	UK - Gibraltar	0	Med (x1)	0
9.	UK – USSR Via Arctic	4	Med (x1)	4
10.	UK – Persia Via Cape	20	Long (x1/2)	10
11.	Japan – China / Port Arthur	20	Short (x2)	40
12.	Japan - Taiwan	10	Med (x1)	10
13.	Japan – Korea	15	Short (x2)	30
14.	Japan – Truk	4	Med (x1)	4
15.	Japan - Siam	4	Med (x1)	4
16.	Japan – Indo-China	8	Med (x1)	8
17.	Japan - Philippines	12	Med (x1)	12
18.	Italy – Libya	4	Short (x2)	8
19.	Italy – Albania	2	Short (x2)	4
20.	Italy – Sardinia	2	Short (x2)	4
21.	Germany - Norway	15	Med (x1)	15
22.	Germany – Sweden	2	Short (x2)	4
23.	Germany - Finland	2	Short (x2)	4
24.	USA West Coast – Australia	16	Long (x1/2)	8
25.	USA East Coast – Argentina	16	Long (x1/2)	8
26.	USA East Coast - Panama	4	Med (x1)	4
27.	USA West Coast - Panama	4	Med (x1)	4
28.	USA West Coast - Hawaii	4	Med (x1)	4

