[3.0] GAME EQUIPMENT

[3.1] THE GAME MAP

The 22" x 34" map sheet portrays the expanse of the North Atlantic Ocean between the Canadian coast on the western extremity, and the European coastline (primarily the British Isles) near the eastern map edge. Various land formations including parts of Greenland and Iceland as well as a number of graphic distinctions which influence game play have been indicated on the map. These will be explained in the appropriate rules sections. A numbered hexagon grid is superimposed on the map sheet to regularize the movement and position of the playing pieces and to delineate the various terrain features located on the map.

[3.2] THE PLAYING PIECES

Two differently colored sets of playing pieces (henceforth known as units) are supplied. The units represent the various individual U-Boats and U-Boat "packs", convoys, and naval and air anti-submarine forces which contested the North Atlantic convoy battles. The opposing forces for each scenario are composed by selecting units from those provided on the unit sheet. It is suggested that the Player sort and store these units by type and color. This greatly facilitates setting up the game. The playing pieces are distinguished by type, strength, and mobility or range, as represented by various numbers and symbols printed on their faces. German units are gray. Allied units are green. Note: Because the distinguishing characteristics printed on the unit faces are not universally used, the Player should carefully study the Summary of Unit Types (3.22) to familiarize himself with the various symbols used and the context of a given symbol on a particular unit type.

[3.21] SAMPLE UNITS

German U-Boat

Unit Symbol

<table>
<thead>
<tr>
<th>U-332</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Identity</td>
</tr>
</tbody>
</table>

Combat Strength

Pack Facing (each arrow represents six U-Boats)

German U-Boat Pack

Pack Name

<table>
<thead>
<tr>
<th>A</th>
<th>Sturmer</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-6</td>
<td></td>
</tr>
</tbody>
</table>

Allied Convoy

Unit Symbol

<table>
<thead>
<tr>
<th>ONS-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Identity</td>
</tr>
</tbody>
</table>

Facing Symbol

Movement Allowance

| 4 |

[3.3] 11A

[3.4] 12.5 Submarine Search

[3.5] 12.5 Submarine Search (Navel Escort Units Searching for U-Boats)
[3.22] SUMMARY OF UNITS

German Units

Single U-Boat

Dranger

Donau

Twelve Boat Pack

Eighteen Boat Pack

Allied Units

Sc-3

Hai

Seewulf

Twenty-Four Boat Pack

Thirty Boat Pack

[3.3] DEFINITION OF TERMS

COMBAT STRENGTH is the basic offensive and defensive power of a unit quantified in Combat Strength Points.

MOVEMENT ALLOWANCE is the basic movement ability of a unit quantified in Movement Points. In most cases a unit expends one Movement Point of its total Movement Allowance for each hex it enters.

RANGE ALLOWANCE is the maximum number of hexagons from a given airbase at which an Air Group may search for, or attack sighted U-boats.

FACING SYMBOL indicates the front of a unit for search and movement purposes.

PACK SYMBOL indicates the size of a particular U-boat pack. Each "pip" in the Pack Symbol indicates the presence of six individual U-boats.

[3.4] GAME CHARTS AND TABLES

The game makes use of various charts and tables as part of its play system and also to organize data into an easily retrievable form. The use of these graphic aids is explained in the appropriate rules sections. Players should examine the charts and tables on the map before reading further.

[3.5] GAME EQUIPMENT INVENTORY

A complete game of Wolfpack should include the following parts:

- One Game Map
- One Rules Folder
- One set of Die-Cut Counters
- One Game Box (not included in subscription edition)

[3.6] GAME SCALE

Each complete Game-Turn represents twenty-four hours of real time. Each mapsheet hex represents a distance of forty-three nautical miles measured from hexside to hexside.

[4.0] SEQUENCE OF PLAY

[4.1] THE GAME-TURN

Wolfpack is played in sequenced turns called Game-Turns. Each Game-Turn is composed of 7 Phases which occur in rigid sequence. Several Phases are further sub-divided into a number of Segments. All game operations must be made in proper sequence. Any action taken out of sequence is a violation of the rules. All Game-Turns are identical and follow one another until the game is ended. Exception: see Special First Game-Turn rules.

[4.2] SEQUENCE OUTLINE

As Wolfpack is a solitaire game there is only one Player who is referred to as "the Player". A complete game of Wolfpack lasts fifteen Game-Turns. Each Game-Turn is composed of the following Phases and Segments.

A. CONVOY INITIAL PLACEMENT PHASE

The Player places the convoy with the lowest identity number which is not already on the map onto the appropriate Initial Placement Hex. The Initial Placement Hex for all HX and SC convoys is hex #0701. The Initial Placement Hex for all ONS and ON convoys is hex #1237.

B. WEATHER PHASE

The Weather Phase is composed of three segments.

1. Storm Movement Segment. The Player draws one Randomizer Chit and compares the Chit Number to the Storm and Convoy Movement Table to determine the direction in which each storm on the map is moved. The Player then moves each storm on the map in accordance with the Storm Movement rules. Any convoy which at the beginning, during, or at the end of this Segment occupies a Storm Hex is immediately inverted (placed facedown).

2. Fog and Storm Formation Segment. The Player draws a Randomizer Chit and compares the Chit Number to the Fog and Storm Formation Table to determine the formation of either Fog or Storm weather for the current Game-Turn. Fog and Storm markers are used as explained in the Weather rules. Any convoy which occupies a Fog or Storm hex at the end of this Segment is immediately inverted.

3. Straggle Determination Segment. The Player draws a Randomizer Chit for each inverted convoy on the map and compares the Chit number to the Convoy Straggle Table to determine if the convoy becomes straggled. After a determination has been made for each inverted convoy, all convoys should be returned to the normal face-up position.

C. AIR PHASE

The Air Phase is composed of two segments.

1. Air Escort Allocation Segment. The Player allocates one Air Group to each qualifying convoy to act as an Air Escort in accordance with the Air Escort rules.

2. Air Search Segment. The Player conducts Air Search missions in accordance with the Air Search rules. U-boats sighted during this segment are immediately attacked by the Air Groups which make the sighting.
D. NAVAL PHASE. The Naval Phase is composed of three segments.

1. Convoy Movement Determination Segment. The Player draws one Randomizer Chit and compares the Chit Number to the Storm and Convoy Movement Table printed on the mapsheet to determine the direction in which each convoy will move during the following Convoy Movement Segment.

2. Convoy Movement Segment. The Player moves all of the convoys on the map in accordance with the Convoy Movement rules. During each convoy’s movement U-boats will attempt to sight the moving convoy. Additionally, the moving convoy’s escort will have the opportunity to search for U-boats and to attack any U-boats which it sights. Each of these operations is explained in the appropriate rules sections.

3. Removal of U-boat Sighting Markers and Air Escorts Segment. The Player removes all U-boat Sighting markers from the map and returns Air Escorts to their appropriate air bases.

E. U-BOAT OPERATIONS PHASE. The U-boat Operation Phase is composed of three segments.

1. U-boat Formation and Reorganization Segment. The Player may reorganize the U-boats stacked in the same hex into larger or smaller pack-sized formations or into individual U-boat units in any manner he desires (see U-boat Pack rules).

2. U-boat Movement Segment. The Player may move any or all of the U-boats in any direction up to the limit of their Movement Allowances within the restrictions outlined in the U-boat Movement rules.

3. U-boat Depleting Segment. The Player places all inverted (Pinned) U-boats face-up.

F. COMBAT PHASE. The Combat Phase is composed of three segments.

1. U-boat Attack Segment. The Player executes U-boat attacks against convoys in accordance with the Combat rules.

2. Counterattack Segment. The Player executes counterattacks against U-boats which attacked convoys in the previous segment in accordance with the Combat rules.

3. Straggle Reduction Segment. The Player removes all “S” Straggle markers from the map. The Player then replaces each “S” Straggle marker with an “SI” marker (see the Combat and Weather rules).

G. GAME-TURN INDICATION PHASE. The Player advances the Game-Turn Indicator one space along the Turn Record Track, signifying the start of a new Game-Turn.

[5.0] WEATHER

GENERAL RULE: During the Weather Phase of each Game-Turn, storms already on the map are moved, the introduction of new storms and/or fog is determined, and convoys occupying either storm or fog hexes are “straggled” as a result of these weather effects.

CASES:

[5.1] FOG AND STORM FORMATION

During each Weather Phase in the Fog and Storm Formation Segment the Player draws one Randomizer Chit and compares the Chit number under the appropriate Scenario column of the Fog and Storm Formation Table to determine the formation of either Fog or Storm weather for the current Game-Turn. There are two Fog Zones indicated on the map, designated Fog Zone #1 and Fog Zone #2. If Fog is present in Fog Zone #1, the Player places the Fog Marker in hex #0903. When Fog is present in Fog Zone #2, the Player places the Fog Marker in hex #1110. Note that when Fog is present in Fog Zone #2, it is automatically present in Zone #1 as well.

There are also indicated on the map three sets of Storm Initial Placement hexes. These sets of three hexes each are labeled “A, B, and C”. When, for example, the Fog and Storm Formation Table indicates an “SA” result, the Player should immediately place a total of three Storm Markers on the map. One Storm Marker is placed in each “A” Storm Initial Placement hex.

Note: At the beginning of each Weather Phase, the Player should move the Fog Marker before the Storm Movement Segment is begun. Storm markers, however, are left in their Initial Placement hexes until the Storm Movement Segment when they begin moving across the map from west to east. Note also that because the Fog and Storm Formation Segment follows the Storm Movement Segment in the Sequence of Play, a storm is never moved on the Game-Turn in which it is placed on the map.

[5.11] Fog and Storm Formation Table

(See the Mapsheet)

[5.2] STORM MOVEMENT

[5.21] A single Storm is composed of three Storm markers. Each of the hexes occupied by a Storm Marker and all of the hexes adjacent to a hex occupied by a Storm marker are considered Storm hexes. Thus, three Storm markers representing a single storm affect a total of seventeen hexes all of which are considered Storm hexes.

[5.22] Each Storm Marker must be moved nine hexes during each Storm Movement Segment.

During each Storm Movement Segment, the Player draws a single Randomizer Chit and compares the Chit number to the Storm and Convoy Movement Table printed on the mapsheet. To determine each storm’s direction of movement, the Chit number is cross-referenced with the last digit of each hex occupied by a Storm Marker. Three differing results can be obtained from the Storm and Convoy Movement Table. These results are executed as follows:

A. If an “N” results, the Storm Marker is moved nine hexes to the northeast.

B. If an “S” results, the Storm Marker is moved nine hexes to the southeast.

C. If neither an “N” nor an “S” results, the Storm Marker is moved nine hexes due east.

Note: The three Storm Markers which represent a single storm will always occupy three parallel hexes which share the same last digit. Thus, for each storm the Player need only determine the movement for one of the three Storm Markers and then merely move the remaining two markers of the same storm so as to preserve this parallel arrangement.

[5.23] A Storm may always move into or through any hex on the map, regardless of any units in occupation of a given hex. An Individual Storm Marker is immediately removed from play at the instant it moves out of the boundaries of the hex field. For practical purposes, the Player may remove a Storm Marker as soon as it moves east of hex #1040 as it can never affect game-play east of that point.

[5.24] There is no limit to the number of Storm Markers which may occupy the same hex. A Storm hex generated by more than one Storm Marker has no special effect.

[5.25] Storms may be moved in any sequence the Player desires. However, it is recommended that the storms be moved in order of their geographical position beginning with the easternmost storm.

[5.26] STORM AND CONVOY MOVEMENT TABLE (see the Mapsheet)

[5.3] FOG

[5.31] Unlike Storm Markers, the Fog Marker is never moved. The Fog Marker is used to indicate the presence of Fog in either Zone #1 alone or both of Fog Zone #1.

[5.32] When Fog is present in a Fog Zone each and every hex in the fog Zone is considered a Fog hex. When Fog is not present in a Fog Zone each hex in that Fog Zone is considered a normal hex in all respects. A Fog Zone, in and of itself, has absolutely no effect on game-play and is only used to delineate a fog forming or frequently “fogged in” area.

[5.4] FOG & STORM EFFECTS

[5.41] At the start of each Weather Phase, prior to the Storm Movement Segment, the Player removes the Fog Marker from the Weather Phase Segment and replaces the Fog Marker with a “SI” marker (see the Fog and Storm Formation Segment). During the immediately following Straggle Reduction Phase, the Player draws a single Randomizer Chit for each convoy and cross-references the Chit number under the appropriate “weather effect” column of the Convoy Straggle Table. For each convoy which was inverted in a Fog hex, the “Fog” column of the Convoy Straggle Table is used. For each convoy which was inverted in a Storm hex, the “Storm” column of the Convoy Straggle Table is used. A separate determination is made for each convoy to determine if the convoy was straggled by the weather it encountered. A Straggle Marker is placed on each convoy which becomes straggled. At the end of the Straggle Determination Segment all convoys should be returned to face-up position. (See 14.3.)

[5.42] U-boat units must expend one additional Movement to enter a storm hex. Non-U-boat units expend one Movement Point to enter a storm hex (no additional cost). All units expend one Movement Point to enter a fog hex (no additional cost).

[5.43] Air Groups may not search (or attack) U-boats in either fog or storm hexes, i.e., Air Search is prohibited in both fog and storm hexes. An Air Group may not perform any mission during the Air Escort Allocation Segment during the Air Phase. (See also 11.34 and 11.48.)

[5.44] At the beginning of each Convoy Movement Segment all “sighted” convoys in storm and fog hexes become “unsighted” (see 12.17).

[5.45] Three (3) is added to the Chit number used in attempting to sight a unit (convoy or U-boat) located in either a fog or storm hex.

[5.46] Three (3) is subtracted from the Chit number used to resolve an attack against a unit (convoy or U-boat) located in either a fog or storm hex.
[6.0] GENERAL MOVEMENT

GENERAL RULE:
During the Convoy Movement Segment the Player moves all Allied naval units according to the restrictions of the Convoy Movement rules (7.0). During the U-boat Movement Segment the Player moves as many or as few U-boat units as he desires according to the restrictions of the U-boat rules (6.3). No unit may be moved in excess of its Movement Allowance in a single Movement Segment. Unused Movement Points may not be accumulated from segment to segment nor transferred from unit to unit.

PROCEDURE:
Move each unit individually, tracing the path of its movement through the hexagonal grid. Once the unit has been moved and the Player’s hand withdrawn, the unit may not be moved again nor may the path be retraced and/or changed during that Movement Segment.

CASES:

[6.1] HOW TO MOVE UNITS

[6.11] During the Convoy Movement Segment, only Allied units may be moved. The movement of Allied units is mandatory and is executed as explained in the Convoy Movement rules. Searches and anti-submarine combat may occur during the Convoy Movement Segment.

[6.12] During the U-boat Movement Segment, only U-boat units may be moved. All, some, or none of the U-boat units may be moved. No Allied units may be moved and no searches or combat may occur during a U-boat Movement Segment.

[6.13] Movement is calculated in terms of Movement Points. Each unit expends one or more Movement Points from its Movement Allowance for each hex it enters.

[6.2] MOVEMENT INHIBITIONS AND PROHIBITIONS

[6.21] Naval units (including U-boats, convoys, and naval escorts) are prohibited from entering a hex outside of the main playing area (shaded light blue). Air Groups may enter hexes outside this area.

[6.22] A unit may not enter a hex unless it has sufficient Movement Points to pay the full Movement Point cost dictated by the weather in the hex. U-boat units expend one additional Movement Point to enter a storm hex. This is the only case in which a unit must expend more than one Movement Point to enter a hex.

[6.3] U-BOAT MOVEMENT

During the U-boat Movement Segment, the Player may move as many or as few U-boat units as he desires. Each U-boat unit may be moved as far as the Player desires as long as the unit’s Movement Allowance is not exceeded.

[6.31] A U-boat unit may enter and/or move through an enemy occupied hex but may not end its movement in an enemy occupied hex.


[7.0] CONVOY MOVEMENT

GENERAL RULE:
During the Convoy Movement Segment of each Game-Turn, the movement of all Allied naval units is mandatory. The Player moves all Allied naval units according to the restrictions of the General Movement and Convoy Movement rules. In any instance in which Movement Allowance rules conflict with a General Movement rule, the Convoy Movement rule takes precedence.

CASES:

[7.1] CONVOY COMPOSITION

Each convoy consists of two units: a non-combat convoy unit (which is deployed face-up allowing the convoy’s Movement Allowance, facing orientation, and identity code to be observed), and a naval escort unit (which is deployed face-down and is considered to have a Movement Allowance and facing orientation identical to that of the convoy unit it is escorting). Together, the convoy unit and the naval escort form the convoy. The pair of counters is considered a single inseparable unit for movement purposes. At different times during the game the convoy unit may be inverted and/or the naval escort unit may be repositioned in a face-up manner and placed either on top of or underneath the convoy unit. Such rearrangements are explained in the appropriate rules sections.

[7.2] CONVOY TYPES

There are four different types of convoy (HX, SC, ON, and ONS). HX and SC convoys are referred to as “eastbound” convoys. ON and ONS convoys are referred to as “westbound” convoys. Eastbound convoys are always moved across the map from west to east (left to right). Westbound convoys are always moved across the map from east to west (right to left). Each convoy unit has a two or three letter prefix and a one or two digit number which together form the convoy’s identity code. The numerical part of a convoy’s identity code is used to determine exactly when a particular convoy is moved during each Convoy Movement Segment. Convoys are moved in strict numerical order beginning with the lowest numbered convoy on the map. Each convoy is moved individually and no other convoy may be moved until the preceding convoy’s movement is completed.

[7.3] INITIAL PLACEMENT AND DESTINATIONS

During the Convoy Initial Placement Phase of each Game-Turn, the Player places the lowest numbered convoy which has not previously entered onto the mapsheet into the appropriate Initial Placement hex. The act of placing a convoy in an Initial Placement hex does not require the expenditure of any Movement Points from that convoy’s Movement Allowance.

[7.31] The Initial Placement hex for all HX and SC convoys is hex #0701. The Initial Placement hex for all ON and ONS convoys is hex #1237.

[7.32] When a convoy enters its Destination hex (which requires the expenditure of one Movement Point) it is immediately removed from the map. Once a convoy reached its destination and is removed from the map it is permanently removed from play (it never enters the map again). Note: Both the convoy unit and its naval escort units are considered one unit for movement purposes and both are removed from the map upon entering the appropriate Destination hex.

[7.33] The Destination hex for all the HX and SC convoys is hex #1237. The Destination hex for all ON and ONS convoys is hex #0701.

[7.34] During the Convoy Initial Placement Phase of each Game-Turn, only one convoy is placed on the map in its Initial Placement hex. This is the lowest numbered convoy which has not previously been introduced onto the map. When placing an eastbound convoy, the facing symbol printed on the unit should be pointed east. When placing a westbound convoy, the facing symbol of the convoy should be pointed west.

[7.4] HOW TO MOVE CONVOYS

During the Convoy Movement Determination Segment of each Game-Turn, the Player draws a single Randomizer Chit and compares the Chit number to the Storm and Convoy Movement Table (see 5.26). The single Chit number is used to determine the direction in which each convoy is moved in the immediately following Movement Segment. To determine the direction in which a particular convoy should be moved, the Chit number is cross-referenced with the last digit of the hex the convoy is located in. The result indicated on the Storm and Convoy Movement Table is executed as follows:

- If an “L” result, an eastbound convoy is moved its full Movement Allowance directly southeast. A westbound convoy is moved its full Movement Allowance directly southwest.
- If an “N” result, an eastbound convoy is moved its full Movement Allowance directly east. A westbound convoy is moved its full Movement Allowance directly west.
- If an “S” result, an eastbound convoy is moved its full Movement Allowance directly southeast. A westbound convoy is moved its full Movement Allowance directly southwest.

Examples:
At the start of the Convoy Movement Determination Segment two convoys are on the map. Convoy HX-1 occupies hex #1422. Convoy SC-3 occupies hex #10817. The Player draws the “2” Randomizer Chit. Cross-referencing this Chit Number with the last digit of the hex occupied by Convoy HX-1 (also a “2”), an “N” result is indicated on the Storm and Convoy Movement Table. Convoy HX-1 (eastbound) is therefore moved its full Movement Allowance (6) northeast ending its movement in hex #2025. Using the same procedure (and Chit Number) for Convoy SC-3, the result obtained from the Storm and Convoy Movement Table is an “L”. Convoy SC-3 (eastbound) is therefore moved its full Movement Allowance (4) directly east ending its movement in hex #0821.

[7.41] During each Convoy Movement Segment, every convoy on the map must expend its full Movement Allowance except convoys which enter a Destination hex and are removed from play.

[7.42] A convoy always expends one Movement Point each hex it enters. There is no additional Movement Point cost for a convoy to enter either a fog or storm hex.

[7.43] A convoy’s Movement Allowance is never reduced. Straggling has no effect on a convoy’s Movement Allowance.

[7.44] The naval escort unit of a convoy is moved with the convoy. The two units which form the convoy may never be separated.

[7.45] An unlimited number of convoys may occupy the same hex at the end of a Convoy Movement Segment. A convoy may enter, move through, and/or end its Movement in either a friendly-occupied or enemy-occupied hex. A convoy never expends any additional Movement Points to enter or leave either friendly or enemy occupied hexes.

[7.46] Regardless of its path of movement, an eastbound convoy is faced due east and a westbound convoy is faced due west (exception: see 7.47). The facing of a convoy is indicated by positioning the unit so the symbol faces the proper direction. The facing of a convoy has an effect on combat which is explained in the Combat rules.

[7.47] When an eastbound convoy enters any hex on the eastern extremity of the light blue main playing area, the Player should immediately reposition the unit so it is facing its Destination hex. Similarly, when a westbound convoy enters...
any hex on the western extremity of the light blue area, the unit should be repositioned so that it faces its Destination hex. Once a unit's facing is so changed, it should continue facing its Destination hex until it is removed from the map.

**Example:** During a Convoy Movement Segment, Convoy ON-4 (westbound and facing due west) enters hex #2007. The Player immediately changes the facing of the convoy so that the symbol is pointing in a southwesterly direction toward the convoy's Destination hex.

[7.48] During a Convoy Movement Segment, a convoy cannot become straggled due to entering storm or fog hexes. A convoy may only become straggled due to these weather effects during the Straggle Determination Segment of the Weather Phase.

### 7.5 CONVOY MOVEMENT INHIBITIONS AND PROHIBITIONS

[7.51] Convoy units and naval escorts are prohibited from entering hexes outside the light blue playing area. Whenever a convoy's movement would carry it beyond the border of the light blue area, the convoy alters its movement and simply follows the border toward its Destination hex. In other words, a westbound convoy whose movement (as indicated by the Storm and Convoy Movement Table) would carry it beyond the northern boundary of the light blue area, would move due west in the northernmost hex row shaded light blue until a Chit number picked on a subsequent Convoy Movement Determination Segment indicated that the convoy should move in a southwesterly direction (back toward the center of the map).

**Example:** At the beginning of the Convoy Movement Determination Segment, Convoy ON-4 occupies hex #1830. The Chit number drawn to determine the direction of convoy movement is a "3". This would normally result in Convoy ON-4 moving six hexes southwest. Instead, the convoy moves through the following path of hexes: #s 0105, 0104, 0203, 0303, 0402, 0502 (end).

[7.52] Convoys are normally prohibited from entering a U-boat Sighting Zone. A U-boat Sighting Zone consists of any hex occupied by a U-boat Sighting Marker and the six hexagons immediately surrounding the hex occupied by the Sighting Marker. If a convoy begins the Convoy Movement Segment outside of a U-boat Sighting Zone and the path of movement dictated by the Storm and Convoy Movement Table would force the convoy to enter a U-boat Sighting Zone, the convoy detours around the Sighting Zone (see 7.53 and 7.54).

[7.53] The movement of a convoy attempting to detour around a U-boat Sighting Zone is executed according to the following priorities:

A. A convoy may never violate the prime directive to move east (or west), according to its facing symbol, at any time during the entire course of its movement. Nor may it ever leave the main playing area (see 7.51).

B. A convoy may never enter a U-boat Sighting Zone unless to avoid doing so it would be forced to violate the first priority (A), or unless it begins the movement segment in a U-boat Sighting Zone (see 7.52). A convoy which begins its movement in a Sighting Zone ignores the detour rules for that Game-Turn for that Zone(s).

C. A convoy must always attempt to move (as nearly as possible) in the direction originally determined for it by the Storm and Movement Table, unless to do so it would be forced to violate the second priority (B).

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### Convoy Detour Diagram

**Convoy Detour Diagram #1:**
Convoy detour paths when convoys are headed due EAST (or west).

**Convoy Detour Diagram #2:**
Convoy detour paths when convoys are headed southeast (or southwest) and northeast (or northwest).

Note that in diagram #1, the center convoy will detour to either the south or the north depending on the Convoy Movement Chit drawn for that Game-Turn; if it is an even number, the convoy detours to the north - if it is an odd number, the convoy detours south.
6.6 CONVOY MOVEMENT AND SEARCHES
During each Convoy Movement Segment, each convoy on the map is moved individually in sequence according to their convoy identity code numbers. No convoy may begin its movement until all lower numbered convoys have completed their movement (Convoy ONS-2 may not begin its movement until Convoy HX-1 has completed its movement). The movement of a particular convoy may be interrupted once or several times in order to resolve searches.

6.61 Each convoy is moved its full Movement Allowance without interruption (except when detouring around U-boat Sighting Markers) unless the convoy enters a U-boat Search Zone (see 12.12) or a U-boat occupied hex. At the instant a convoy enters a U-boat Search Zone its movement is temporarily interrupted and the appropriate U-boats are given the opportunity to search for the convoy (see 12.1). Similarly, at the instant an eligible convoy (a convoy whose naval escort unit is face-up) enters a U-boat occupied hex its movement is temporarily interrupted and the convoy's naval escort unit is given the opportunity to search for the convoy in the hex (see 12.2). In either of these search situations, as soon as the search is resolved, the convoy immediately resumes its movement and continues moving until it either exhausts its Movement Allowance or it enters another hex necessitating another search procedure resolution.

6.62 There is no limit to the number of times a particular convoy's movement may be interrupted to resolve searches during a single Convoy Movement Segment.

6.63 When a convoy enters a U-boat occupied hex the U-boat Picket Search (U-boats searching for the convoy) is resolved first. After the Picket Search is resolved, the convoy's convoy's naval escort unit (if now face-up) resolves the Submarine Search (searching for the U-boats in the hex).

8.0 ZONES OF CONTROL
GENERAL RULE:
There are no Zones of Control in this game.

9.0 STACKING
GENERAL RULE:
An unlimited number of friendly units may occupy the same hex at any time during the game. Any number of friendly and Enemy units may occupy the same hex at the same time except at the end of a U-boat Movement Segment. Friendly and Enemy units may never occupy the same hex at the end of a U-boat Movement Segment.

9.1 EFFECT ON MOVEMENT
9.11 U-boat units may enter and move through hexes occupied by Enemy units during the U-boat Movement Segment. U-boat and Allied units may never move in an Enemy occupied hex.

9.2 EFFECT ON FACING
9.21 U-boat units stacked in the same hex are automatically considered to be faced identically to the topmost U-boat unit in the hex.

9.3 EFFECT ON SEARCHES
9.31 For Air Search and Submarine Search purposes the number of U-boats in the hex being searched is totalled to determine the Air-Sub or Naval-Sub Product (see 11.3 and 12.2).

9.32 For Picket Search purposes the Combat Strength of all U-boat units stacked in the Search Zone hex are totalled to determine which hex is attacked (see 12.1). The facing symbol of a U-boat pack unit is used to conduct the Picket Search (see 12.2).

9.4 EFFECT ON COMBAT
9.41 During anti-submarine combat all U-boat units stacked in a hex under attack must be attacked (exception: see 14.15).

9.42 U-boat units stacked in the same hex may not attack different Enemy occupied hexes. All U-boat units stacked in a hex must attack the same Enemy occupied hex. If one U-boat unit in a stack of U-boat units is attacking an Enemy unit, the other U-boat units in the hex are not compelled to join the attack, but they nonetheless suffer the effects of an anti-submarine counterattack of the hex they occupy.

9.43 If a stack of U-boats is adjacent to an Enemy occupied hex in which two or more different Enemy convoys can be attacked, the Player may allocate the U-boats into as many separate attacks as possible. U-boat units in the same hex are not compelled to attack the same Enemy convoy or to make any attack at all. However, all U-boats in a hex under anti-submarine attack are attacked as a group or a number of groups (see 14.15).

9.44 In any anti-submarine combat, all U-boats stacked in the same hex must be attacked in the order in which they are stacked going from the top of the stack to the bottom of the stack.

9.5 STACKING POSITION AND UNIT TYPES
9.51 The Player may stack U-boat units in any order he desires. The position of individual U-boat units in a stack may only be changed during the U-boat Operation Phase.

9.52 The convoy unit of an "unsighted" convoy is always stacked (face-up) atop its naval escort unit (positioned face-down). The naval escort unit of a "sighted" convoy is always stacked (face-up) atop the convoy unit it is escorting (which is retained in a face-up position). This is an aide to play and is further explained in the Search rules (see 12.0).

10.0 FACING
GENERAL RULE:
Facing plays a relatively minor role in the game. The facing symbol of a U-boat pack unit is used to delineate the Search Zone of that unit. The facing symbol of a U-boat pack unit is used to indicate whether the unit is east or westbound for movement purposes. In addition, the facing symbol of a convoy unit is used to indicate the only U-boat units in a convoy unit that may search or escort convoys. An Air Group's range is either seven, ten, sixteen, or twenty hexes as indicated by the number on the unit's face. The various air ranges have been depicted on the map sheet to ease calculating the distance between a given airbase and a particular hex.

10.1 HOW AIR GROUPS ARE DEPLOYED
The Table of Initial Forces lists the number of Air Groups which should be deployed at each airbase at the start of the game according to the particular scenario being played. Air Groups deployed at an airbase are marked with an appropriate airbase symbol. Once assigned to a particular airbase, an Air Group must return to that same base at the end of each Air Phase. An Air Group may never be transferred from one base to another.

10.2 RANGES OF AIR GROUPS
An Air Group's range is the maximum number of hexes away from its base at which the Air Group may search or escort convoys. An Air Group's range is either seven, ten, sixteen, or twenty hexes as indicated by the number on the unit's face. The various air ranges have been depicted on the map sheet to ease calculating the distance between a given airbase and a particular hex.

10.3 HOW AIR GROUPS CONDUCT AIR SEARCH
During the Air Search Segment of each Air Phase, all Air Groups which were not allocated to escort convoys in the immediately preceding segment are allocated to the Air Search segment. The Player may stack U-boat units in any airbase and U-boat occupied hex for Air Search purposes, count the fewest number of hexes from the airbase (exclusive) to the U-boat occupied hex (inclusive).

PROCEDURE:
To determine the number of Air Groups searching a single hex. Multiply this number by the total number of U-boats in the hex and divide the resulting total by six. rounding any fraction up. The result is the Air-Sub Product which determines which vertical column to use on the Air Search Table. To determine which horizontal column to use, count the number of hexes between the hex being searched and the airbase from which the searching Air Groups are operating. Cross-indexing the appropriate vertical and horizontal columns of the Air Search Table, the Player draws a single Randomizer Chit. If the Chit number matches any of the indicated numbers, the U-boats in the hex are considered sighted. A U-boat Sighting Marker is immediately placed in the hex and the Air Group is considered for the sighting immediately attack all of the U-boats in the hex (see 14.4).

Example: Three Air Groups operating from Ulster airbase (hex #1039) are searching hex #1031 occupied by two six-boat packs and one individual U-boat unit. The total number of U-boats in the hex is 13. The Player therefore multiplies three (the number of Stack 1 Air Groups) by thirteen (the total number of U-boats in the hex). The result (39) is then divided by six, giving an Air-Sub Product of seven when the remaining fraction
Player may do so if he finds this aids range calculation, or if he finds it easier to keep track of searched hexes by physically moving the Air Groups adjacent to each hex as it is searched.

11.4 HOW AIR GROUPS ESCORT CONVOYS

A convoy which is allocated to escort a convoy is removed from its base and placed in the convoy's hex during the Air Escort Allocation Segment of the Air Phase. During the Convoy Movement Segment of the same Game-Turn the Air Group is moved together with the convoy. During the Convoy Movement Segment the air and naval escort of the convoy are combined to form a single escort. The convoy occupied hex the convoy enters (see 12.25).

At the end of the convoy Movement Segment, all Air Groups are returned to their original bases.

An Air Group may never escort a convoy beyond the limit of its range. An Air Group is immediately returned to its base when the convoy it is escorting enters a hex beyond the limit of its range. An Air Group cannot be allocated to a convoy beyond its range during the Air Escort Allocation Segment.

Air Groups may only be allocated to convoys during the Air Escort Allocation Segment. An Air Group may never be allocated to a convoy during the Convoy Movement Segment.

An Air Group may be allocated to convoy on the basis of the distance between the convoy's hex and the airbase. An Air Group may only be allocated to a convoy during the Convoy Movement Segment.

During the Convoy Movement Segment of the Naval Phase. The air and naval escort make a combined search in each hex. The face-down naval escort of the convoy is immediately revealed. The face-up naval escort is considered "sighted" (exception: see 12.17). Regardless of whether or not a Picket Search is successful, the convoy immediately removes from the map. A convoy which is sighted cannot be attacked during the Convoy Movement Segment. Convoy movement may be attacked during the U-boat Attack Segment of the Combat Phase.

12.0 SEARCH

GENERAL RULE:

There are three different types of search. Air Searches are made by land-based Air Groups during the Air Search Segment of the Air Phase (see 11.3 for a description of the Air Search Procedure). U-boat searches are made by land-based Air Groups during the Convoy Movement Segment of the Naval Phase. The air and naval escort make a combined search in each hex. The face-up naval escort is considered "sighted" (exception: see 12.17). Regardless of whether or not a Picket Search is successful, the convoy immediately removes from the map. A convoy which is sighted cannot be attacked during the Convoy Movement Segment. Convoy movement may be attacked during the U-boat Attack Segment of the Combat Phase.

12.1 PICKET SEARCH

U-boat searches, that is, those made by the U-boat escorting the convoy, are of two types: (1) Picket Searches (see 12.11), which are made by the U-boat escorting the convoy; and (2) Submarine Searches (see 12.12), which are made by the U-boat escorting the convoy. Picket Searches are made by land-based Air Groups during the Air Search Segment of the Air Phase (see 11.3.1 for a description of the Picket Search Procedure). Picket Searches are made by land-based Air Groups during the Convoy Movement Segment of the Naval Phase. The air and naval escort make a combined search in each hex. The face-up naval escort is considered "sighted" (exception: see 12.17). Regardless of whether or not a Picket Search is successful, the convoy immediately removes from the map. A convoy which is sighted cannot be attacked during the Convoy Movement Segment. Convoy movement may be attacked during the U-boat Attack Segment of the Combat Phase.
Example: The total U-boat Combat Strength in hex #1911 is eleven Combat Strength Points. The topmost U-boat unit in the hex is the individual U-boat unit designated "U-89". U-89 is positioned with its designation adjacent to the hexside between hex #1911 and hex #2010. The Search Zone of the U-boats in hex #1911 therefore extends into hexes 1911, 2010 and 2011.

[12.13] A U-boat (or stack of U-boat units) may only execute one search per convoy. The U-boat units in a single hex must attempt to sight a particular convoy in the first hex the convoy enters which is within their Search Zone. A U-boat occupied hex may execute one search for each distinct convoy which enters their Search Zone. In other words, each distinct convoy which enters a U-boat occupied hex is searched once and a search must be executed when the convoy first enters the Search Zone (exception: see 12.15).

[12.14] The Combat Strength of U-boats in different hexes which search for a convoy at the same instant (in the same hex) must be totaled.

Example: Hex #1911 is occupied by U-boats with a total Combat Strength of eleven Combat Strength Points. The U-boats in this hex are facing northwest. Hex #2011 is occupied by U-boats with a Combat Strength of two U-boat units. The U-boats in hex #2011 are facing due west. Convoy HX-1 begins moving due east from hex #2007. Upon entering hex #2010 it would be searched by the combined total Combat Strength of eleven Combat Strength Points. The U-boats in hex #2011 are facing northwest. Hex _#2011 is occupied by U-boats between hex #1911 and hex #2010. The Sear<;h Zone of the U-boats in hex #2011 is searched once and the particular convoy in the first hex the convoy enters attempting to sight the U-boats in the hex. U-boats which are sighted by a naval escort during the Convoy Movement Segment are immediately attacked by that naval escort unit.

PROCEDURE:

Multiplying the naval escort unit's Combat Strength by the total number of U-boat units in the hex, divide the resulting total by six, rounding any fraction up. The result is the Naval-Sub Product which determines which vertical column to use on the Submarine Search Table. A single Randomizer Chit is placed on the Chit side of the appropriate Naval-Sub Product column. If the result is not an "S", the U-boats are not sighted and the convoy and naval escort unit resume their movement. If the result is an "S", a U-boat Sighting Marker is immediately placed in the hex and the U-boats in the hex are immediately attacked by the escort responsible for the sighting.

[12.22] Submarine Searches may only be executed by face-up naval escorts (regardless of whether the escort unit is on top of the convoy unit or vice-versa). Face-down naval escort units may never search for U-boats.

[12.23] When a convoy with a face-up naval escort enters a U-boat occupied hex, the convoy's movement is temporarily interrupted and a Submarine Search is immediately executed (exception: 12.24). Regardless of the whether or not the search is successful, the convoy's movement is resumed either immediately after the search or, if the search is successful, immediately after the attacks against the U-boats in the hex are resolved.

[12.24] U-boat Picket Searches are always executed before Submarine Searches. Thus, if a convoy with a face-down naval escort enters a U-boat Search Zone which is also a U-boat occupied hex, the Picket Search is performed first. If the search reveals a non-dummy naval escort, the naval escort immediately executes a Submarine Search.

[12.25] A convoy with an Air Escort has the Combat Strength of its naval escort increased by one (1) for computation of the Naval-Sub Product. If the search is successful, the naval escort's Combat Strength is increased by one (1) when resolving the attacks against the U-boats in the hex.

[12.26] Three (3) is added to the Chit number used to resolve a Submarine Search executed in a storm or fog hex.

[12.27] The Combat Strength of a naval escort accompanying an "S2" straggled convoy is reduced by two (2) when computing the Naval-Sub Product. The Combat Strength of a naval escort accompanying an "S1" straggled convoy is reduced by one (1) when computing the Naval-Sub Product. If such a reduction causes the Naval-Sub Product to fall below one, no Submarine Search may be executed.

[12.28] A naval escort unit may only attack the U-boats in a hex as a result of its own successful Submarine Search. Thus, U-boats which were sighted during the Air Phase or during the Combat Phase of the preceding Game-Turn may not be attacked by a naval escort entering the hex during the Convoy Movement Segment (even though a U-boat Sighting Marker is in the hex) unless the naval escort's Submarine Search was successful. Note: Only one U-boat Sighting Marker is placed in the hex regardless of how many times the U-boats in the hex are sighted during a single Game-Turn.

[12.29] A CVE naval escort unit executes Submarine Searches exactly like any other naval escort unit except it may search every U-boat occupied hex it enters and every U-boat occupied hex adjacent to each hex it enters.

[12.3] SUBMARINE SEARCH TABLE (See the Mapsheet.)

[12.4] HOW TO USE THE U-BOAT SIGHTING MARKERS

A U-boat Sighting Marker is placed in a U-boat occupied hex at the hex which contains the U-boats in the hex are sighted. A maximum of one U-boat Sighting Marker may occupy a single hex at a time regardless of the number of times the U-boats in the hex are sighted during the same Game-Turn. A U-boat Sighting Marker is never moved from the hex in which it is placed even if the U-boats which were sighted in the hex leave that hex. All U-boat Sighting Markers are removed from the map during the last segment of the Naval Phase of each Game-Turn (see also 7.52, 7.53, and 7.54).

[13.0] U-BOAT PACKS

GENERAL RULE:

During the Pack Formation and Reorganization Segment of the U-boat Operations Phase, U-boats stacked in the same hex may be reorganized into larger or smaller pack-sized formations or into individual U-boat units at the Player's option.

CASES:

[13.1] HOW U-BOAT PACKS ARE FORMED AND REORGANIZED

[13.11] There are two basic types of U-boat units; units representing individual U-boats and units representing packs of varying sizes. Six individual U-boats are required to form one six-boat pack-sized unit. Larger pack-sized units are formed in multiples of six. A twelve-boat pack unit may be formed from twelve individual U-boats, from two six-boat pack units, or from one six-boat pack unit and six individual U-boats. Larger pack units may be built from any combination of individual U-boats and/or smaller pack-sized units. A pack-sized unit may also be broken down into any combination containing the correct number of component units. For example, an eighteen-boat pack can be broken down into three six-boat packs, or a twelve-boat pack and a six-boat pack, or a combination of pack units and individual U-boats as long as the components contain a total of eighteen U-boats. Note: Each "pip" in a U-boat pack symbol represents six individual U-boats. The Combat Strength of a U-boat pack unit is not an accurate index of the number of individual U-boats in the pack.

[13.12] There is no Movement Point expense for forming or reorganizing U-boat packs. The Player simply picks up the U-boats stacked in the same hex and replaces them with different pack-sized and/or individual U-boat units in any manner he wishes as long as the total number of U-boats in the hex remains the same. Note: Although there is no immediate Movement Point cost for forming and reorganizing U-boat packs, larger units have inferior Movement Allowances.

[13.13] There is a limit to the number of each type of pack in the Wolfpack counter-mix. This is a deliberate mechanism which prevents the formation of an unrealistic number of packs and/or the formation of packs in which the total number of U-boats is not divisible by six. For all anti-submarine search and combat procedures the number of U-boats in a hex is divided by six with any remaining fraction rounded up. The use of pack units containing multiples of six boats aids these calculations.

[13.14] During anti-submarine combat, U-boat pack-sized units are often forced to break down into individual U-boats. This breaking down is
done in exactly the same manner as described in (13.11).

[14.15] A Pinned U-boat (or pack-sized unit) cannot be formed into a pack or reorganized to form larger or smaller sized units during the Pack Formation and Reorganization Segment of the U-boat Operations Phase.

[14.0] COMBAT

GENERAL RULE: There are two distinct types of combat in World War II: Submarine Combat and Anti-Submarine Combat. U-boat Combat occurs only during the U-boat Attack Segment of the Combat Phase when U-boats attack a convoy unit from the hex directly adjacent to the convoy unit’s bow (front) as indicated by the facing arrow on the face of the convoy unit. Anti-Submarine Combat may occur during the Air Search Segment of the Air Phase, during the Convoy Movement Segment of the Naval Phase and during the Counterattack Segment of the Combat Phase. During the Air Search Segment, Air Groups which sighted U-boats immediately attack those U-boats. During the Convoy Movement Segment, air and naval escort units which sight U-boats by Submarine Searches immediately attack those U-boats. During the Counterattack Segment, the naval escort unit of an attacked convoy attacks all of the U-boats in the hex from which its convoy was attacked. The U-boat Combat Results Table is used to resolve U-boat attacks against convoy units. The Anti-Submarine Combat Results Table is used to resolve all attacks against U-boats. Note: U-boats may only attack convoy units. U-boats cannot attack Air Groups or naval escort units.

CASES: (14.11) During the U-boat Attack Segment of the Combat Phase, all U-boats in a hex directly adjacent to a sighted convoy’s bow (front) may attack that convoy unit. Note: The facing of U-boat units does not affect combat as long as the attacking U-boats occupy a hex directly adjacent to the bow of the convoy being attacked.

PROCEDURE:
Total the Combat Strengths of all attacking U-boats. From this number, subtract the modified Combat Strength of the attacked convoy’s naval escort unit. The result is called the Combat Differential, which is used to determine which vertical column to use on the U-boat Combat Results Table. The Player now draws a single Randomizer Chit and cross-references the Chit number with the appropriate Combat Differential column. If the result is not a number, there is no effect to the convoy unit. If a number results, the Player should immediately advance the Tonnage Sunk Indicators on the Victory Points/Tonnage Sunk Track to reflect the addition of this number to the cumulative total of Victory Points kept from the beginning of the game. After doing this, the Player immediately draws a second Randomizer Chit and compares the Chit number under the appropriate column of the Convoy Straggle Table to determine if the convoy becomes straggled as a result of the attack just resolved (see 14.3). Finally, the Player places a U-boat Sighting Marker in the hex occupied by the attacking U-boats.

COMMENTARY: The numbers on the U-boat Combat Results Table represent one victory point each. In addition, each Victory Point corresponds to the sinking of one merchant ship of approximately five thousand gross tons (see also 14.6).

[14.12] U-boats may only attack “sighted” convoys. A convoy with a face-down naval escort unit can never be attacked.

[14.13] All, some or none of the U-boats adjacent to a sighted convoy’s bow may attack the convoy at the Player’s option. If any U-boat unit attacks a convoy, however, all U-boats in the hex from which the attack was launched are subject to a counterattack by the convoy’s naval escort unit (exception: see 14.15).

[14.14] No U-boat may attack more than one convoy per U-boat Attack Segment. All U-boats attacking a single convoy must be stacked in the same hex and the Combat Strengths of all U-boats attacking the convoy are totaled. No U-boat may attack more than once per U-boat Attack Segment.

[14.15] If two or more U-boats occupy a hex which is suffers double the tonnage sunk (score double the sighted convoy units, the Player may choose to attack either or both convoy units. If both are attacked, the Player allocates U-boats to each attack in whatever percentages he desires as long as no U-boat participates in more than one attack. If both convoys are attacked, the naval escort unit of each convoy may counterattack only those U-boats which participated in the attack against the convoy it is escorting.

[14.16] U-boats may not attack a convoy unless they achieve at least a Combat Differential of +2 against the convoy’s naval escort. U-boat attacks at a Combat Differential of less than +2 are prohibited. U-boat attacks at a Combat Differential of greater than +40 are treated as a +40 attack.

[14.17] One (1) is added to the Chit number used to resolve an attack against an “S1” straggled convoy. Two (2) is added to the Chit number used to resolve an attack against an “S2” straggled convoy in addition, a straggled convoy suffers double the tonnage (score double Victory Points) sunk indicated on the U-boat Combat Results Table. Note: These effects are only applied against a convoy which was straggled prior to the attack. An unstraggled convoy which is attacked and becomes straggled due to the attack suffers tonnage sunk (Victory Points) exactly as indicated on the U-boat Combat Results Table.

[14.18] Three (3) is subtracted from the Chit number used to resolve an attack against a convoy occupying either a storm or fog hex. Note: Adding or subtracting a Chit number cannot increase the number beyond “9”. Subtractions from a Chit number cannot decrease the number to less than “0”.

[14.19] The combat Strength of the naval escort unit of an “S2” straggled convoy is reduced by two (2) for the purpose of computing the Combat Differential used during the attack. The Combat Strength of the naval escort unit of an “S1” straggled convoy is reduced by one (1) when computing the Combat Differential used in the attack.

Note: A convoy unit can never be eliminated as a result of U-boat attacks. Historically, even a small merchantman would carry a cargo of one million tons of shipping. No World War II convoy was ever totally destroyed.

[14.2] U-BOAT COMBAT RESULTS TABLE
(See the mapsheet.)

[14.3] STRAGGLING OF CONVOYS

[14.31] During the Straggle Determination Segment of the Weather Phase, the Player must draw a separate Randomizer Chit for each inverted convoy unit to determine whether or not the convoy becomes straggled. The Chit number drawn for each convoy is compared under either the fog or storm column of the Convoy Straggle Table indicated on the U-boat Combat Results Table. If the Chit number is compared under the vertical column headed by either an “S1” or “S2” Straggle Marker during the Straggle Determination Segment, the convoy unit is turned face-up and either an “S1” or an “S2” Straggle Marker is placed on top of the convoy unit as dictated by the Convoy Straggle Table.

During the U-boat Attack Segment of the Combat Phase, the Player must draw a separate Randomizer Chit for each convoy in which any tonnage was sunk (any Victory Points were achieved). The Chit number drawn for each convoy is compared under the vertical column headed by the Victory Point number obtained against that convoy from the U-boat Combat Results Table. If the Chit number indicates a straggler result, place either an “S1” or “S2” Straggle Marker on top of the convoy unit as dictated by the Convoy Straggle Table.

[14.32] During the Straggle Reduction Segment of the Combat Phase, the Player removes all “S1” Straggle Markers from the map. The Player then replaces each “S2” Straggle Marker with an “S1” marker. Note: An “S2” Straggle Marker placed on a convoy during the Combat Phase is reduced to an “S1” Straggle Marker during the Straggle Reduction Segment at the end of that same Combat Phase. However, because the “S2” marker is present during the (anti-submarine) Counterattack Segment of the Combat Phase, the Combat Strength of the attacked convoy’s naval escort unit is reduced by two (2).

[14.33] The Combat Strength of the naval escort unit of an “S2” straggled convoy is always reduced by two (2) Combat Strength Points. This reduction is applicable whenever determining the Naval-Sub Product used for Submarine Searches and for determining the Attack Strength used in Anti-Submarine Combat. The Combat Strength of the naval escort unit of an “S1” straggled convoy is reduced by one Combat Strength Point for Submarine Search and Anti-Submarine Combat purposes.

[14.34] Two (2) is added to the Chit number used to resolve a U-boat attack against an “S2” straggled convoy. One (1) is added to the Chit number used to resolve a U-boat attack against an “S1” straggled convoy. In addition, a straggled convoy suffers double the tonnage sunk (score double the number of Victory Points) indicated on the U-boat Combat Results Table.


[14.36] An “S1” straggled convoy that requires a straggler determination becomes an “S2” straggled convoy if an “S1” or an “S2” result is obtained from the Convoy Straggle Table. Any straggler result against an “S2” straggled convoy has no effect.

[14.37] CONVOY STRAGGLE TABLE
(See the mapsheet.)

[14.4] ANTI-SUBMARINE COMBAT

[14.41] During the Air Search Segment of the Air Phase, Air Groups which sight U-boats immediately attack those U-boats. During the Convoy Movement Segment of the Naval Phase, air and naval escort units which sight U-boats immediately attack those U-boats. During the Counterattack Segment of the Combat Phase, the naval escort unit of each convoy which was attacked in the immediately preceding U-boat Attack Segment counterattacks all U-boats in the hex from which its convoy was attacked. The Anti-
Submarine Combat Results Table is used to resolve all attacks against U-boats and the same procedure is used to resolve all Anti-Submarine Combat regardless of the type of attacking units.

**PROCEDURE:**
Total the Combat Strength of all units attacking a single U-boat occupied hex. The result is the total Attacking Combat Strength which is used to determine the topmost group in the stack. The result of a random attack is used to determine the topmost six-boat pack. The result of this attack is neither a "P" nor an "X" so the pack unit is placed face-up directly adjacent to the unattacked remainder of the stack. The fourth attack is made against the topmost six-boat pack. The result of this attack is a "P" so the pack is inverted and placed at the bottom of the stack. The fifth and final attack is made against the last remaining six-boat pack. The result of this attack is an "X" so the pack is replaced with six individual U-boat units. One of these units is automatically removed from the map and the remaining five are placed under attack as indicated on the Anti-Submarine Combat Results Table. The fourth attack is made against the topmost six-boat pack. The result of this attack is a "P" so the pack is inverted and placed at the bottom of the stack. The fifth and final attack is made against the last remaining six-boat pack. The result of this attack is an "X" so the pack is replaced with six individual U-boat units. One of these units is automatically removed from the map and the remaining five are placed face-up directly adjacent to the unattacked remainder of the stack.

**Example:** During the Air Search Segment, three U-boats are attacked in order going from the topmost group in the stack to the bottom of the stack. U-bots which attack a convoy are automatically sighted (see 14.10). During the Counterattack Segment only air escort and naval escort units may attack U-boats. During the Air Search and Convoy Movement Segments, only air escort and naval escort units may attack U-boats. During the Air Search and Convoy Movement Segments, any U-boat or pack-sized unit which receives a "P" anti-submarine combat result becomes pinned. A U-boat unit is immediately inverted at the instant it becomes pinned. While pinned, a U-boat unit has no Search Zone, may not be reorganized into larger or smaller pack-sized units, and has half its normal Movement Allowance. All inverted U-boat units become depinned (turned face-up) during the U-boat Depinning Segment of each Game-Turn. Note: Pinning has no effect on a U-boat unit's Combat Strength or its ability to attack.

**How to use the Victory Points/Tonnage Sunk Track**

The Victory Points/Tonnage Sunk Track is used to keep track of the accumulation of (German) Victory Points during the course of the game. The track is divided into two columns. Each box in the upper column is used to record the accumulation of one Victory Point (or one ship of approximately five thousand tons sunk). Each box in the lower column is used to record the accumulation of ten Victory Points (or fifty thousand tons of shipping sunk). There are two Tonnage Sunk/Victory Point Markers provided in the counter-mix. At the beginning of the game, the Player places one marker in each box in the label "0". During the U-boat Attack Segment of the Combat Phase, the Player advances the markers along the appropriate columns (or tracks) to reflect the cumulative total of victory Points scored during the game. Victory Points are awarded for U-boat attacks against convoy units. The result on the U-boat Combat Results Table is given in terms of Victory Points, i.e., a result of four (4) on the U-boat Combat Results Table causes four (4) Victory Points to be added to the current total on the Tonnage Sunk/Victory Point Marker.

Thus, a total of thirty-three Victory Points also represents sinking a cumulative total of 165,000 shipping tons.

To determine the Net Victory Points Total at the end of the game, the Player subtracts two Victory Points from his cumulative total for each U-boat which was sunk during the course of the game. U-boats which are sunk during the game should be kept in a separate stack off the map (see 16.0, Victory Conditions).

**Victory Points/Tonnage Sunk Track**

(See the Mapsheet.)

**The Scenarios HOW TO SET-UP AND PLAY THE GAME**

**General Rule:** There are actually four different versions of Wolfpack. Each of these versions is called a Scenario. All of these Scenarios use the standard game rules and game length, and are distinguished mainly by the different mixes of forces available to each side at the start of the game. Optional rules may be used in any of the Scenarios. At the end of the Game-Turn, the Player determines the level of victory achieved by the U-boat Command by referring to the Victory Conditions.

**Cases:**

(15.1) **How to Set-Up and Start the Game**

First, the Player decides which of the four Scenarios he will play. Regardless of the Scenario he chooses, the game is always set-up in the same manner and in the same sequence. First, the Player refers to the Table of Initial Forces and selects the appropriate quantities and types of units required for the Scenario to be played (see 15.2). After assembling the required unit counters the Player deploys the Allied Air Groups on the airbases on the map according to the information given on the Table of Initial Forces (see 15.3). The Player then deploys all of the allotted U-boat units on the map in any manner he wishes (see 15.4). Following this, the Player arranges the twenty convoy units in numerical order and pairs a face-down naval escort with each face-up convoy unit (see 15.5). Finally, the Player begins the game in accordance with the Special 1st Game-Turn rules (see 15.6).

(15.2) **How to use the Table of Initial Forces**

The Table of Initial Forces indicates the types and quantities of all the units necessary to play each of the four Scenarios. The units required for each
Scenario are vertically listed beneath each unit's picture. The four Scenarios are February 1943, March 1943, April 1943, and May 1943.

All Scenarios use all twenty convoy units provided in the counter mix; that is, five HX Convoy units, five SC Convoy units, five ON Convoy units and five ONS Convoy units. All Scenarios use twelve Dummy units.

There are three types of naval escort units; Escort Groups, Support Groups, and Escort Carrier Groups (CVE's).

The four Allied airbases are Greenland, Newfoundland, Iceland, and Ulster (Northern Ireland). These airbases are indicated on the mapsheet with an airbase symbol. In the Initial Forces Table, bases are identified by key letter.

Example: The following types and quantities of units are used in the April 1943 Scenario: 48 U-boats, 20 Convoy units, 12 Dummy units, one eastbound Escort Group with a Combat Strength of two Combat Strength Points, one westbound Escort Group with a Combat Strength of two Combat Strength Points, two westbound Support Groups with a Combat Strength of three Combat Strength Points, two eastbound Support Groups with a Combat Strength of three Combat Strength Points, one eastbound Escort Carrier Group (CVE) with a Combat Strength of three Combat Strength Points, one westbound Escort Carrier Group with a Combat Strength of three Combat Strength Points, one Air Group with a Range of seven (hexes) and one Air Group with a Range of ten deployed at Greenland, three Air Groups with a Range of twelve and three Air Groups with a Range of ten deployed at Newfoundland, two Air Groups with a Range of sixteen, two Air Groups with a Range of twelve, and one Air Group with a Range of ten deployed at Iceland, and one Air Group with a Range of twenty, one Air Group with a Range of sixteen, five Air Groups with a Range of twelve and one Air Group with a Range of ten deployed at Ulster.

[15.21] TABLE OF INITIAL FORCES (See the Mapsheet.)

[15.3] INITIAL DEPLOYMENT OF ALLIED CONVOYS

In each of the four Scenarios all twenty Convoy units are used. The Player should place all twenty Convoy units (face-up) on any clean, smooth surface adjacent to the mapsheet. Next, the Player should divide the Convoy units into two groups; one group containing all HX and SC Convoy units; and the second group containing all ON and ONS Convoy units. Thus, there will be an "eastbound" (HX and SC) group of ten Convoy units and a "westbound" (ON and ONS) group of ten Convoy units.

The Player now takes the twelve Dummy units provided and divides these into two groups of six units apiece. Next, the Player takes all of the naval escort units (EG, SG, and CVE) allocated for the Scenario by the Table of Initial Forces and divides these into "eastbound" units (indicated by the facing-up position of the escort unit) and "westbound" units. There should be a total of four units in each of these two groups. The Player then adds six Dummy units to each group of naval escort units so that he now has two groups of ten units apiece. Keeping each group separate, the Player inverts all ten units of each group. Leaving all of these units face-down, he proceeds to thoroughly mix the Dummy and actual naval escort units in each of these two groups. After thoroughly mixing them, the Player pairs one of these face-down units with each face-up Convoy unit. Face-down "eastbound" units are paired with "eastbound" (HX and SC) Convoy units. Face-down "westbound" units are paired with "westbound" (ON and ONS) Convoy units. After this pairing process is completed, the Player arranges the twenty convoy units in numerical order according to the Convoy identity codes printed on the Convoy units. He should now have all twenty convoys in line and numbered consecutively from left to right. Each convoy should be face-up and stacked with a face-down naval escort or Dummy unit. Note: Once the pairing process is completed each convoy consists of the same pair of units throughout the game. The Convoy unit and its accompanying escort unit may never be separated during the game. After all twenty convoys are prepared for play, the Player begins the game in accordance with the Special 1st Game-Turn rules (see 15.8).

[15.6] USE OF DUMMY UNITS

Dummy units are incorporated into the game to introduce some uncertainty concerning the disposition and routing of actual Allied Convoy. A Convoy unit accompanied by a Dummy unit instead of an actual naval escort unit is not considered an actual convoy but merely the product of incorrect German intelligence. Therefore, when a convoy is "sighted", if its escort is revealed to be a Dummy unit the Convoy unit and the Dummy unit are immediately removed from the map. Note: Because of the fixed ratio of actual and dummy convoys used in the game the Player may not reveal the escort unit of any convoy which reaches its Destination hex without being "sighted" until the game is over and the level of victory has been determined.

[15.7] USE OF RANDOMIZER CHITS

Many, if not most of the game operations involved in Wolfpack are resolved by using the ten Randomizer Chits provided in the counter mix. At the start of the Scenario, the Player should place all ten Chits in any suitable container such as a coffee cup. Each required Chit selection should be made from the complete set of all ten Randomizer Chits. Before each Chit selection, the Chits should be thoroughly mixed. To ensure a random result, the Player should avoid looking at the remaining Chits when selecting one from the container.

[15.8] SPECIAL FIRST GAME-TURN RULES

After deploying the Allied Air Groups, the U-boat units, and preparing the Allied convoys, the Player picks a single Randomizer Chit and compares the Chit number to the Initial Set-Up Table (15.81). The Initial Set-Up Table indicates the hexes in which the first five numerically ordered convoys must be placed at the start of the game. It also indicates the location of any storms present at the beginning of the game.

Example: The Player draws the "five" (5) Randomizer Chit and compares this Chit Number to the Initial Set-Up Table. The table indicates that the first five convoys should be immediately deployed in the following locations:

<table>
<thead>
<tr>
<th>Convoy</th>
<th>Hex #</th>
</tr>
</thead>
<tbody>
<tr>
<td>HX-1</td>
<td>0731</td>
</tr>
<tr>
<td>ONS-2</td>
<td>1221</td>
</tr>
<tr>
<td>SC-3</td>
<td>0713</td>
</tr>
<tr>
<td>ON-4</td>
<td>1225</td>
</tr>
<tr>
<td>HX-5</td>
<td>0707</td>
</tr>
</tbody>
</table>

After the first five convoys and any STorm Markers are deployed according to the Initial Set-Up Table, the Player starts the game in accordance with the standard sequence of Play (see 4.2). The Initial Set-Up Table is only used on the first Game-Turn.

[15.81] INITIAL SET-UP TABLE

(See the Mapsheet.)

[16.0] VICTORY CONDITIONS

In Wolfpack, the Player represents the German U-boat Command. There are three levels of German victory: marginal, substantive and decisive. If the Player fails to achieve a German victory, the game is considered an Allied victory (i.e., the system has defeated the Player). As Wolfpack is a solitaire game, the Player's objective is to win as large a German victory as he can by accumulating as many Victory Points as he is able to, and minimizing U-boat losses. In successive games, the Player should always try to improve on his previous "record" victory.

[16.1] HOW TO DETERMINE VICTORY

At the end of the fifteenth Game-Turn, play ceases and the Player determines the level of victory achieved by subtracting two Victory Points for each U-boat sunk during the game from the total number of Victory Points obtained by U-boat attacks against Allied convoys (see 14.6). The result of this subtraction is called the Net Victory Points Total. The Player then compares this Net Victory Points Total to the Level of Victory Table (see 16.2).

[16.2] LEVEL OF VICTORY TABLE

Net Victory Points Total  Level of Victory
Eleven (11) or less  Allied Victory
12 to 19  German Marginal Victory
20 to 26  German Substantive Victory
27 or more  German Decisive Victory

[17.0] OPTIONAL RULES

COMMENT:

The following optional rules can be used to introduce added variety to the basic game situation presented in Wolfpack. All of the optional rules can be used in any Scenario with the exception that (17.1) and (17.2) cannot be used simultaneously.
[17.1] EARLY INTRODUCTION OF THE GERMAN "SCHNORKEL" DEVICE
This rule supposes the schnorkel was fitted on the Type VII U-boats at the start of 1943 rather than in the latter part of the year as was actually the case. The only modifications to the standard game rules are as follows:
A. Two (2) is added to the Chit number used to resolve Air Searches for U-boats.
B. One (1) is added to the Chit number used to resolve naval Submarine Searches.

[17.2] EARLY INTRODUCTION OF THE REVOLUTIONARY TYPE XXI U-BOAT
This rule supposes that a large number of advanced Type XXI U-boats, capable of an extremely high submerged speed, became available two years sooner than actually was the case. In addition to the modifications given in (17.1), change standard rule (14.5) as follows:
While pinned, a U-boat has no Search Zone and may not be reorganized into larger or smaller pack-sized formations, but it retains its full Movement Allowance.

[17.3] FREE DEPLOYMENT OF ALLIED AIR GROUPS
This rule allows the Player to distribute the Air Groups allocated for a Scenario by the Table of Initial Forces in any manner he wishes among the four Allied air bases.

[17.4] STRENGTHENED ALLIED AIR COMBAT SUPPORT-
The rule supposes the Allies had earmarked twice as many aircraft for anti-submarine warfare in the North Atlantic as was actually the case. The standard game rules are modified as follows:
A. Each Air Group is equivalent to two (2) Air Group units for Air Search and anti-submarine combat.
B. An Air-Sub Product greater than twelve is treated as twelve.
C. In anti-submarine combat, a total attacking Combat Strength of greater than six (6) is treated as six.

[17.5] INCREASED U-BOAT PRODUCTION
This rule supposes that German U-boat production was 25% higher than actually occurred.
Change the number of U-boats allocated by the Table of Initial Forces as follows for each Scenario:
February 1943 — 50
March 1943 — 60
April 1943 — 60
May 1943 — 75

Note: When employing this optional rule, the number of pack-sized units that can be formed is limited to the number provided in the counter-mix.

[18.0] GAME NOTES

[18.1] PLAYER'S NOTES
In a solitaire game we don't like to give all the secrets away as this would deprive the Player of the enjoyment of "cracking" the game himself. However, it is possible to give the "first time" Player a few basic hints.

A. Each Air Group is equivalent to two (2) Air Group units for Air Search and anti-submarine combat.

B. Two (2) is added to the Chit number used to resolve Air Searches for U-boats.

C. In anti-submarine combat, a total attacking Combat Strength of greater than six (6) is treated as six.

The Player must attempt to sight the maximum number of convoys in the shortest possible time. Once a convoy is sighted, the objective is to sink the maximum amount of tonnage for a minimum loss of U-boats in order to obtain the best point ratio. Unfortunately, much of this depends on chance given the limited number of U-boats available and the large North Atlantic area of operations. The routing of convoys and the potential interference of bad weather are beyond the Player's ability to control. The only aspect over which he retains complete control concerns the deployment and movement of the U-boats.

The first thing the Player will notice is the fact that U-boats must be spread out to increase the effectiveness of Picket Searching and concentrated to heighten the effectiveness of combat. The problem then is the proper balance of dispersion and concentration. You will notice that basically a convoy can only move in one of three general directions. Because of this and the superior speed of the U-boats, an effective picket line can be set up which will also enable rapid concentration for combat.

U-boats are most vulnerable when concentrated for combat. Although a naval escort's counter-attack can be effective, particularly in the April and May Scenarios, U-boat concentrations are even more vulnerable to attack by shore-based Air Groups. This does not mean, however, that U-boats should never concentrate within range of an airbase. It does mean that concentrations should be avoided within an airbase's effective range. If the number of Air Groups which can reach a hex ensures a thirty per cent chance of sighting a six-boat pack in the hex, then concentrating more than six boats in that hex is foolish. Whenever there is an opportunity to concentrate for a favorable attack, such as against a straggled convoy, the Player must carefully consider the risk to the U-boats. In general, slow and straggled convoys were going too fast. Fast convoys, particularly when escorted by a Support Group or a CVE, should be left alone, especially when within range of a heavy shore-based air support.

Finally, a word about the victory conditions. The substantive and decisive victory levels are very difficult to achieve, particularly in the later Scenarios. To win the Battle of the Atlantic, the German U-boat Command would have had to achieve a decisive victory each month of 1942-43. Historically, in terms of the game, the Germans scored a marginal victory in February 1943; a substantive victory in March 1943; and suffered very bad defeats in April and May 1943. This shows how far the Germans were from actually winning the shipping war.

[18.2] DEVELOPER'S NOTES
Wolfpack is a gambler's game. In the past, historical simulations were often criticized because the outcome of a game was a product of pure "chance". More recently, game designers and a fairly large number of players have begun to acknowledge the considerable impact of "chance elements" on military situations in general. Moreover, many elements players formerly have taken for granted, such as absolute and perfect "command control" of their forces, are now restricted by game mechanics which incorporate the element of chance. The increase over the overall realism of the situation. Despite the fact that the game is a solitaire and the element of chance is the deciding factor, the game is far from being a "random" game. The Player has many choices as to how to design the game and why the probability of the result is very low.

All of this explains why the game has become more popular and why the probability of winning the enemy is so small.

Of course, to attack, the U-boat was forced to give away its whereabouts. The result was an attritional battle in which ever greater numbers of U-boats were sacrificed as the war progressed and Allied escort forces were increased in strength and anti-submarine technique and technology. For this reason, the four Scenarios we have included are all taken from the late period in which the advantage still slightly favored the Germans. Prior to this time the scarcity of Allied naval escorts and long-ranged aircraft allowed the U-boats an easy time. The March 1943 Scenario is an evenly matched situation in which the U-boats have to contend with the First Support Group and Escort Carrier Group the Allies introduced into the North Atlantic convoy routes. The April and May 1943 Scenarios show how the advantage swung dramatically to the Allies as sufficient shore-based aircraft became available for "sub-hunting", along with increasingly powerful naval escort forces and ship-based aircraft to close the "Atlantic Gap".

The optional rules give the Player an idea of what might have happened if the German "schnorkel" device had been available in quantity six months earlier than was actually the case.

Counting The Fall of Rome and Operation Olympic (published in previous issues of Strategy & Tactics). Wolfpack is the third solitaire game we've designed. The operational level of the U-boat war demanded that the game be designed for a single Player. Working with a basically unequal and frequently static situation, we feel we've developed an interesting game. If it tends to be less a game of skill that a challenging puzzle, that is because that is exactly how it was for the German High Command. In any event, we hope that by developing these new solitaire concepts, we are satisfying a never previously met demand of the gaming community.

[19.0] DESIGN CREDITS
Game System Design: James F. Dunnigan
Physical Systems Design and Graphics: Roddand A. Simonsen
Game Development: Frank Davis, Edward Curran
Research: James F. Dunnigan
Playtesting: Edward Curran, Bob Osterlund, Joseph Angiolillo, Raymond Clark, John Heydt
Production: Manfred F. Mulkahn, Roger Dowd, Linda Mosca
### STORM AND CONVOY MOVEMENT TABLE

Last Digit of Hex Occupied by Storm Marker or Convoy Unit

<table>
<thead>
<tr>
<th>Chit #</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<td>L</td>
</tr>
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<td>L</td>
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<td>N</td>
<td>N</td>
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</tr>
</tbody>
</table>

---

### FOG AND STORM FORMATION TABLE

<table>
<thead>
<tr>
<th>Chit #</th>
<th>Feb</th>
<th>March</th>
<th>April</th>
<th>May</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>F1</td>
<td>F2</td>
<td>F2</td>
<td>F2</td>
</tr>
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<td>F1</td>
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</tr>
<tr>
<td>2</td>
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<td>SB</td>
<td>F1</td>
<td>F1</td>
</tr>
<tr>
<td>3</td>
<td>SB</td>
<td>SC</td>
<td>SB</td>
<td>SA</td>
</tr>
<tr>
<td>4</td>
<td>SC</td>
<td>SC</td>
<td>SB</td>
<td>SA</td>
</tr>
<tr>
<td>5</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>6</td>
<td>•</td>
<td>•</td>
<td>SC</td>
<td>SB</td>
</tr>
<tr>
<td>7</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<tr>
<td>8</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>9</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

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### ABBREVIATED SEQUENCE OF PLAY

(Refer to rules folder for complete Sequence of Play information)

Each Game-Turn is composed of the following Phases and Segments:

**A. CONVOY INITIAL PLACEMENT PHASE**

1. **STORM MOVEMENT SEGMENT.** Draw Chit and compare to Storm and Convoy Movement Table to determine the direction in which storms are moved.
2. **FOG AND STORM FORMATION SEGMENT.** Draw Chit and compare to Fog and Storm Formation Table to determine the formation of new fog or storm weather.
3. **STRAGGLE DETERMINATION SEGMENT.** Draw Chit for each inverted convoy and compare to Convoy Straggle Table to determine straggling due to weather effects.

**B. WEATHER PHASE** (Remove Fog Marker if on the map at this time).

1. **STORM MOVEMENT SEGMENT.** Draw Chit and compare to Storm and Convoy Movement Table to determine the direction in which storms are moved.
2. **FOG AND STORM FORMATION SEGMENT.** Draw Chit and compare to Fog and Storm Formation Table to determine the formation of new fog or storm weather.
3. **STRAGGLE DETERMINATION SEGMENT.** Draw Chit for each inverted convoy and compare to Convoy Straggle Table to determine straggling due to weather effects.

**C. AIR PHASE**

1. **AIR ESCORT ALLOCATION SEGMENT.** Allocate one Air Group to each qualifying convoy to act as its Air Escort.
2. **AIR SEARCH SEGMENT.** All Air Groups which were not allocated for Air Escort missions must execute Air Search attempting to sight U-boats. Air Groups which sight U-boats immediately attack those U-boats.

**D. NAVAL PHASE**

1. **NAVAL/SUB PRODUCT** (Naval Escort Units searching for U-boats)

---

### AIR SEARCH TABLE

<table>
<thead>
<tr>
<th>RANGE</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3-7</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>8-10</td>
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<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>11-12</td>
<td>•</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
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<td>13-16</td>
<td>•</td>
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<td>1</td>
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<td>17-20</td>
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<td>1</td>
<td>1</td>
<td>2</td>
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</tr>
</tbody>
</table>

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### SUBMARINE SEARCH TABLE

<table>
<thead>
<tr>
<th>Chit #</th>
<th>[Escort Combat Strength]</th>
<th>U-Boats Sighted</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>S</td>
</tr>
<tr>
<td>1</td>
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<td>S</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>S</td>
</tr>
</tbody>
</table>

---

**Explanation of Results:**

- **S** = U-boat(s) in the hex are sighted. Place a U-boat in the hex. The Naval Escort unit (and Air Escort, if available) attacks the U-boats immediately. After all U-boats are attacked, resume the convoy's movement.

- **•** = The Naval Escort unit fails to sight the U-boats. It may resume the convoy's movement.
Explanation of Results

If chit drawn is within the spread of numbers indicated, then the U-boats in the hex are Sighted. Place a U-boat Sighting Marker in the hex. The Air Group(s) immediately attack the sighted U-boats. For example, if "1-4" is the indicated spread (i.e., one through four) and a "3" is drawn, the U-boats are Sighted.

Picket Search Table

U-boats Searching for convoys

<table>
<thead>
<tr>
<th>Chit #</th>
<th>1-2</th>
<th>3-4</th>
<th>5-6</th>
<th>7-14</th>
<th>15-23</th>
<th>24-31</th>
<th>32-39</th>
<th>40+</th>
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</thead>
<tbody>
<tr>
<td>1-2</td>
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<td>S</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-3</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-4</td>
<td>S</td>
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<td>2</td>
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<td>S</td>
<td>3</td>
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<td></td>
<td></td>
</tr>
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<td>S</td>
<td>S</td>
<td>S</td>
<td>4</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>1-7</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-8</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-9</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-10</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-11</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>S</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Explanation of Results:

S = Convoy unit is sighted. Immediately turn convoy's naval escort unit face-up. If a dummy marker, immediately remove both the dummy escort and the convoy unit from the map. If a naval escort unit, place the naval escort unit face-up on top of the convoy unit to indicate the convoy is sighted. Then resume the convoy's movement.

U-boat(s) fails to sight convoy. Immediately resume movement.

Anti-submarine combat

<table>
<thead>
<tr>
<th>Chit #</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2</td>
<td>P</td>
<td>P</td>
<td>X</td>
</tr>
<tr>
<td>1-3</td>
<td>P</td>
<td>P</td>
<td>X</td>
</tr>
<tr>
<td>1-4</td>
<td>P</td>
<td>P</td>
<td>X</td>
</tr>
<tr>
<td>1-5</td>
<td>P</td>
<td>P</td>
<td>X</td>
</tr>
<tr>
<td>1-6</td>
<td>P</td>
<td>P</td>
<td>X</td>
</tr>
<tr>
<td>1-7</td>
<td>P</td>
<td>P</td>
<td>X</td>
</tr>
</tbody>
</table>
### Combat Differential Table

<table>
<thead>
<tr>
<th>Chit #</th>
<th>[U-Boat Strength minus Modified Escort]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2-5</td>
</tr>
<tr>
<td>0</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

### Straggle Table

<table>
<thead>
<tr>
<th>Weather</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storm</td>
<td>S1</td>
<td>S1</td>
<td>S1</td>
</tr>
<tr>
<td></td>
<td>S1</td>
<td>S1</td>
<td>S2</td>
</tr>
<tr>
<td></td>
<td>S1</td>
<td>S2</td>
<td>S2</td>
</tr>
</tbody>
</table>

Explanation of Results:
- **S1** = Convoy becomes stragged. Immediately place an "S1" Straggle Marker on the convoy unit.
- **S2** = Convoy becomes stragged. Immediately place an "S2" Straggle Marker on the convoy unit.
- **S3** = Convoy becomes stragged. Immediately place an "S3" Straggle Marker on the convoy unit.
- **S4** = Convoy becomes stragged. Immediately place an "S4" Straggle Marker on the convoy unit.
- **S5** = Convoy becomes stragged. Immediately place an "S5" Straggle Marker on the convoy unit.
- **S6** = Convoy becomes stragged. Immediately place an "S6" Straggle Marker on the convoy unit.
- **S7** = Convoy becomes stragged. Immediately place an "S7" Straggle Marker on the convoy unit.
- **S8** = Convoy becomes stragged. Immediately place an "S8" Straggle Marker on the convoy unit.
- **S9** = Convoy becomes stragged. Immediately place an "S9" Straggle Marker on the convoy unit.

### Initial Set-Up Table

**[15.81] INITIAL SET-UP TABLE**

<table>
<thead>
<tr>
<th>Chit #</th>
<th>HX-1</th>
<th>ONS-2</th>
<th>SC-3</th>
<th>ON-4</th>
<th>HX-5</th>
<th>Storms</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0731</td>
<td>1623</td>
<td>1509</td>
<td>1225</td>
<td>0104</td>
<td>none</td>
</tr>
<tr>
<td>1</td>
<td>1328</td>
<td>1623</td>
<td>0713</td>
<td>1828</td>
<td>0707*</td>
<td>[B]</td>
</tr>
<tr>
<td>2</td>
<td>1925</td>
<td>0823</td>
<td>0311</td>
<td>1225</td>
<td>0707</td>
<td>none</td>
</tr>
<tr>
<td>3</td>
<td>0731</td>
<td>2025</td>
<td>1111</td>
<td>1231</td>
<td>0707</td>
<td>[1810,1610,1410,0915,0715]</td>
</tr>
<tr>
<td>4</td>
<td>0128</td>
<td>1221</td>
<td>0713</td>
<td>0628</td>
<td>0707*</td>
<td>[2133,1933,1733]</td>
</tr>
<tr>
<td>5</td>
<td>0731</td>
<td>1221</td>
<td>0713</td>
<td>1225</td>
<td>0707</td>
<td>[B] [1819,1619,1419]</td>
</tr>
<tr>
<td>6</td>
<td>1322</td>
<td>0127</td>
<td>1111</td>
<td>0628</td>
<td>1304</td>
<td>none</td>
</tr>
<tr>
<td>7</td>
<td>1328</td>
<td>1221</td>
<td>0709</td>
<td>1225</td>
<td>1304</td>
<td>[0619,0419,0219]</td>
</tr>
<tr>
<td>8</td>
<td>0719</td>
<td>2025</td>
<td>0713</td>
<td>1225</td>
<td>0707</td>
<td>none</td>
</tr>
<tr>
<td>9</td>
<td>0128</td>
<td>1623</td>
<td>0713</td>
<td>1828</td>
<td>0707</td>
<td>none</td>
</tr>
</tbody>
</table>

* indicates that the hex begins the game in a straggled condition; place an "S1" Straggle Marker on the convoy during the set-up.
### TABLE OF INITIAL FORCES (by Scenario Month)

**NAVAL UNITS** Starting units are listed by quantity per Scenario Month.

<table>
<thead>
<tr>
<th>Month</th>
<th>1-8</th>
<th>HX</th>
<th>SC</th>
<th>ON</th>
<th>ONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb</td>
<td>42</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Mar</td>
<td>48</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Apr</td>
<td>48</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>May</td>
<td>60</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Month</th>
<th>1-8</th>
<th>HX</th>
<th>SC</th>
<th>ON</th>
<th>ONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mar</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>12</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**AIR POINTS**

<table>
<thead>
<tr>
<th>Month</th>
<th>7</th>
<th>10</th>
<th>12</th>
<th>16</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb</td>
<td>1n,1g,1l,0u</td>
<td>0n,0g,0l,1u</td>
<td>3n,0g,1l,5u</td>
<td>0n,0g,1l,1u</td>
<td>0n,0g,0l,0u</td>
</tr>
<tr>
<td>Mar</td>
<td>0n,1g,0l,0u</td>
<td>3n,0g,2l,1u</td>
<td>3n,0g,2l,5u</td>
<td>0n,0g,1l,1u</td>
<td>0n,0g,0l,0u</td>
</tr>
<tr>
<td>Apr</td>
<td>0n,1g,0l,0u</td>
<td>3n,0g,2l,1u</td>
<td>3n,0g,2l,5u</td>
<td>0n,0g,1l,1u</td>
<td>0n,0g,0l,0u</td>
</tr>
<tr>
<td>May</td>
<td>0n,1g,0l,0u</td>
<td>3n,0g,2l,1u</td>
<td>3n,0g,2l,5u</td>
<td>0n,0g,1l,1u</td>
<td>0n,0g,1l,1u</td>
</tr>
</tbody>
</table>

Air Points are shown by quantity per airbase per Scenario Month.

- "n" = Newfoundland; "g" = Greenland; "l" = Iceland; "u" = Ulster (Northern Ireland)
Allocate one Air Group to each qualifying convoy to act as its Air Escort.

2) AIR SEARCH SEGMENT. All Air Groups which were not allocated for Air Escort missions must execute Air Search attempting to sight U-boats. Air Groups which sight U-boats immediately attack those U-boats.

D. NAVAL PHASE

1) CONVOY MOVEMENT DETERMINATION SEGMENT. Draw Chit and compare to Storm and Convoy Movement Table to determine the direction each convoy will move.

2) CONVOY MOVEMENT SEGMENT. All convoys are moved in sequence. Convoys which enter a U-boat Search Zone may be searched for by U-boat Picket Search. Qualified convoys which enter U-boat occupied hexes may search for the U-boats using Submarine Search. A sighted U-boat must be immediately attacked by the Allied Escort unit which made the sighting.

3) REMOVAL OF U-BOAT SIGHTING MARKERS AND AIR ESCORTS SEGMENT.

E. U-BOAT OPERATIONS PHASE

1) PACK FORMATION AND REORGANIZATION SEGMENT. U-boats stacked in the same hex may be reorganized into larger or smaller pack-sized formations or into individual U-boat units.

2) U-BOAT MOVEMENT SEGMENT.

3) U-BOAT DEPINNING SEGMENT. All inverted U-boats are turned face-up.

F. COMBAT PHASE

1) U-BOAT ATTACK SEGMENT. Use the U-boat Combat Results Table.

2) COUNTERATTACK SEGMENT. Use the Anti-Submarine Combat Results Table.

3) STRAGGLED REDUCTION SEGMENT.

F. GAME-TURN INDICATION PHASE.
<table>
<thead>
<tr>
<th>Track</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 Victory Points</td>
</tr>
<tr>
<td>0 Tons</td>
</tr>
</tbody>
</table>
WolfPack
Submarine Warfare in the North Atlantic, 1942-44

Victory Points

<table>
<thead>
<tr>
<th>Victory Points</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tons</td>
<td>5,000</td>
<td>10,000</td>
<td>15,000</td>
<td>20,000</td>
<td>25,000</td>
<td>30,000</td>
<td>35,000</td>
<td>40,000</td>
<td>45,000</td>
<td></td>
</tr>
</tbody>
</table>

East Destination Hex

Ulster
ABBREVIATED SEQUENCE OF PLAY

[5.26] STORM AND CONVOY MOVEMENT TABLE

[11.30] AIR SEARCH TABLE

[11.39] SUBMARINE SEARCH TABLE

[12.10] FOG AND STORM FORMATION TABLE

[15.27] TABLE OF INITIAL FORCES (for Scenario Month)

[14.37] CONVOY STRAGGLE TABLE

[14.47] ANTI-SUBMARINE COMBAT RESULTS TABLE

[16.17] INITIAL SET-UP TABLE

[16.21] TABLE OF INITIAL FORCES (for Scenario Month)