

# HARPDOON

## CAPTAIN'S BRIEFING

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## Advanced Rules

The basic game rules cover virtually all important aspects of modern naval combat, and provide a good basis for simulating battles. The following rules provide additional color and detail, however, and once you feel comfortable with the basics, you may want to add these as well. The rules on the attack and capture of bases are necessary to play several of the advanced scenarios.

### AIRBASE ATTACK AND DEFENSE

Airbases are attacked in the same manner as surface ships, with the exception that they may only be attacked with SSMs, ASMs, bombs, and gunfire; torpedoes have no effect on them.

Damage on airbases is marked off on the Roster Sheet just like hull hits on ships. When all of the airfield's boxes are marked off, the airfield is unserviceable. No aircraft may take off from or land on the airfield for the rest of the game.

In addition, each hit on an airbase destroys one aircraft currently on the field. The owning player decides which aircraft is destroyed. If a tactical aircraft is destroyed, reduce the denomination of one aircraft currently stationed on the field. If a patrol aircraft is destroyed, mark it off on the Roster Sheet.

Airbases defend themselves in the same manner as ships. Airfields have SAMs and point defense weapons, the values of which are printed on the Base Charts. An airfield retains its full SAM and point defense values regardless of its level of damage.

In some scenarios Keflavik and Bödo begin the game in Soviet hands. If so, use the SAM and point defense values printed on the Soviet Base Chart.

Bases are always considered to be detected and so can be attacked at any time.

### CAPTURING BASES

Severomorsk and Leuchars are defended by large ground forces and can be easily reinforced. As a result, these two bases may not be captured. Keflavik and Bödo, however, are made vulnerable to capture due to their relatively remote locations.

If a player has an amphibious vessel (either a generic amphibious vessel or an *Ivan Rogov*-class ship) in the same hex as a base for two complete and consecutive turns, he captures the base.

Captured bases may not be used by either player for the rest of the game. (The capturing player does not have enough time to move in support units to operate the base, nor does the original owner have time to replace the old units should he recapture the base.)

In several scenarios, Keflavik and Bödo begin the game in Soviet hands. In this case the Soviets may use them, since they were captured earlier, and the Soviets have had time to make them operational again.

### AERIAL TANKERS

Tanker aircraft enable tactical aircraft to remain airborne for longer periods or to make extended-range attacks. Tankers are treated as patrol aircraft, with one aircraft continuously airborne from each flight of four.

Each side can have a tanker aircraft in the game. The Soviets have a data card for the tanker version of the IL-76 Candid Tanker. The NATO player does not have a dedicated tanker aircraft in the game. Instead, any one four-aircraft flight of A-6 Intruders can be used as tankers. (Fuel modules are mounted in place of the normal ordnance load.)

**Movement:** Tanker aircraft move in the same way as patrol aircraft. For the Soviets, place the IL-76 counter under the plastic aircraft; for NATO, use the A-6's flight counter.

**Function:** For game purposes, a tactical aircraft treats a tanker as an airborne airbase. A tactical aircraft flight may move to a tanker aircraft within its range and then launch an attack from there. This attack may be conducted at once or the aircraft can "orbit" with the tanker and make its attack, or counter-attack, later. Place the tactical aircraft flight in the tanker box of the appropriate Base Chart. Alternatively, a tanker aircraft may be used to keep an entire flight of aircraft aloft on CAP.

Each tanker aircraft can service one flight of tactical aircraft.

**Example 1:** The NATO player has two flights of A-6 aircraft based at Keflavik and wishes to conduct an air strike against Severomorsk. However, the distance from Keflavik to Severomorsk is 23 hexes, while the A-6 has a range of only 12 hexes.

The NATO player begins the turn by designating one A-6 flight to be a patrol aircraft. He selects a patrol aircraft marker and places its movement chit in the movement cup. When that movement chit is drawn, he places the patrol aircraft marker (and its associated A-6 flight counter) 12 hexes away from Keflavik. He may then launch his attack. It may be done as part of this move or any subsequent move.

The attack consists of moving the second A-6 flight to the location of the tanker aircraft, and then moving it the remaining 11 hexes to Severomorsk. After the attack is done, the remaining A-6s in the attacking flight are returned first to the tanker aircraft and then to Keflavik.

**Example 2:** The Soviet player wishes to have a strong CAP over a task force but does not have a carrier available. To accomplish this he uses a tanker.

The Soviet player begins the turn by designating his IL-76 Candid flight to be an active patrol aircraft. He selects a patrol aircraft marker and places its movement chit in the movement cup. When that movement chit is drawn, he places the patrol aircraft marker (and its associated IL-76 flight counter) in the same hex as the task force. He may then launch his CAP from any land airfield and fly it to the patrol aircraft. This may be done as part of this move or any subsequent move.

Assuming for the sake of the example that the task force is within six hexes of Severomorsk and that there is a flight of MiG-29s there, the Soviet player would fly the MiGs to the tanker aircraft, remove them from the map, and place them in the tanker's aircraft box on the Soviet Base Chart. The MiG-29s are now treated as if they were normal CAP aircraft in the hex.

### NAVAL BASES

For game purposes, Severomorsk and Leuchars are treated as naval bases. Severomorsk actually is a naval base complex. Leuchars is not, but it is used in the game to represent nearby naval facilities in the British Isles.

Naval bases have several special functions.

### Resupply

Once a ship has exhausted its supply of SSMs, it may return to a friendly naval base and resupply.

If a ship spends two complete and consecutive turns in a naval base, it is resupplied with missiles and may return to sea.

### Repairs

Damaged ships which return to a naval base may be repaired. One hull hit may be repaired for every complete day (three complete and consecutive turns) spent in the base.

### Sanctuary

Ships in a naval base are protected by the SAMs of the base as well as their own weapons. Attacks on ships in the naval base must be conducted separately from those on the base's airfield. (Thus the base's air defenses are allowed to fire separately at each attack.)

### UNDERWAY REPLENISHMENT

Generic merchant ships and the generic tanker may be used as replenishment ships. If a task force contains a replenishment ship, it may resupply expended SSMs. To do so, the task force must reduce its speed to 1 for one turn and may not conduct any attacks or be attacked that turn.

Resupply is only completed at the end of a turn and only if the task force did not attack and was not attacked. If attacked, the task force may elect to defend itself and counterattack, but this interrupts the resupply operation.

### COASTAL WATERS

Any hex containing both land and water is a coastal water hex. Coastal waters do not affect movement, but do affect combat.

Surface vessels in coastal hexes are able to use landforms to confuse enemy sensors, and thus are more difficult to hit. Subtract one from the die roll on all ASM and SSM attacks on task forces which are in coastal waters.

On the other hand, ships and submarines are less maneuverable in coastal waters, and so some forms of attack become more effective. Add one to the die roll on all torpedo, bomb, ASW, and gunfire attacks on task forces which are in coastal waters.

### AIRCRAFT CROSSOVER MISSIONS

The distinction between tactical and patrol aircraft is somewhat arbitrary and is meant to provide an easy guide as to their most common use. Strictly speaking, patrol aircraft (at least those which are armed) can carry out tactical missions and tactical aircraft could carry out patrols. They just usually aren't very effective in those roles.

Nevertheless, players may find that they want to conduct crossover missions with their aircraft. The Iranians, for example, used their few remaining F-14 Tomcats as early warning aircraft (due to their excellent radars) during the recent war with Iraq. These crossover missions are very easy to do under the rules.

When patrol aircraft conduct tactical missions, use the patrol aircraft counter as the aircraft flight counter. The number of aircraft remaining in service according to the Roster Sheet is the number committed to the strike mission. If, for example, a player had lost one P-3 Orion from a flight, he would multiply the ASM value of the flight by three when attacking, as there are only three aircraft left in the flight.

When tactical aircraft are sent on patrol missions, they must be organized as a full-strength four-aircraft flight. As with other patrol aircraft, only one actual aircraft is airborne at any one time.

# Scenarios

1

## Surface Encounter

An *Arleigh Burke*-class destroyer is accompanying a merchant ship to its destination when the two encounter a Russian formation made up of a *Sovremennyy*-class destroyer and an *Ivan Rogov*-class amphibious ship that it is supposed to be protecting.

**Setup:** Place the Soviet task forces three hexes due east of Jan Mayen Island. Place the NATO task force three hexes southeast of the island. (This will start the two task forces three hexes apart.)

**Victory:** Whichever side inflicts the most damage on the other's merchant/amphibious ship wins. If equal damage is inflicted on both (or if both are sunk), then whichever side inflicts the most damage on the other's surface combatant wins.

2

## Cruiser Missile Attack

A *Bunker Hill*-class cruiser must attack a strongly defended Russian formation. This group has an *Ivan Rogov*-class amphibious ship guarded by two *Krivak*-class frigates and a *Sovremennyy*-class destroyer.

The submarine can make two missile attacks on the Russian formation. (Ignore the submarine detection and torpedo rules for the moment). The first can be from long range and has a strength of 4. The second is from short range and has a strength of 1.

**Setup:** Place the Soviet task force three hexes due east of Jan Mayen Island. Place the NATO task force three hexes southeast of the island. (This will start the two task forces three hexes apart.)

**Victory:** The NATO player wins if he sinks the Soviet amphibious ship, which is carrying troops and vehicles to a Russian beachhead. Sinking the escorts will not help win the battle. The Soviet player wins if the *Ivan Rogov* remains afloat.

**Notes:** The NATO player must decide how he will attack. First read the sidebar about rollback attacks on page 7 of the *Captain's Rules*. Then look at the defenses of the Russian formation and decide what is the best way to attack.

3

## Gun Battle

Three Soviet *Krivak*-class frigates are scouting when they encounter a US Navy *Spruance*-class destroyer and a *Knox*-class frigate. The Soviets immediately attempt to close to close range where their guns can be brought to bear.

**Setup:** Place the Soviet task forces three hexes due east of Jan Mayen Island. Place the NATO task force three hexes southeast of the island. (This will start the two task forces three hexes apart.)

**Victory:** Whichever side inflicts the most hull hits on its opponent wins.

4

## Radar Search

A US task force must move from Leuchars to Keflavik. Using (or not using) radar, it must search out any enemy ships and avoid them if possible. If this fails, it must fight its way past the enemy while protecting the merchant ships.

**Forces:** The NATO task force consists of two merchant ships, one *Arleigh Burke*-class destroyer, and two *O.H. Perry*-class frigates. The US force is opposed by two *Krivak*-class frigates and a *Sovremennyy*-class destroyer.

**Setup:** Place the NATO task force in Leuchars. Place the Soviet task force (or forces) anywhere on the map, but not within four hexes of either Leuchars or Keflavik.

**Victory:** The NATO player wins if both merchant ships arrive at Keflavik intact by the end of the twelfth turn. Otherwise, the Soviet player wins.

5

## Shadow Boxer

This is a replay of Scenario 4, but with all of the dummy ship cards in play as well.

6

## Hunter Killer

A Soviet wolf pack must patrol the gap between Iceland and Scotland. An American carrier task force is expected to pass through in the next few days, but first an American antisubmarine hunter-killer formation will attempt to destroy the submarine screen.

**Forces:** The NATO forces consist of one *Spruance*-class destroyer, one *Arleigh Burke*-class destroyer, and two *O.H. Perry*-class frigates. Soviet forces consist of two *Akula*-class SSNs and one *Oscar*-class SSGN.

**Setup:** Place all Soviet task forces on a line from hex 1816 to hex 1419. Once the game starts, they must remain within two hexes of their starting line. The NATO task force (or forces) enter from the southwest map edge.

**Victory:** The game lasts for seven turns. The Soviet player's mission is to survive, either by evading attack or destroying the attackers. The Soviet player must keep at least two boats alive. Every two NATO ships sunk offsets the loss of one Soviet sub. Failing this, the NATO player wins.

7

## Convoy

A NATO convoy must reach Bödo with badly needed fuel and munitions. Soviet submarines attempt to prevent this.

**Forces:** NATO forces consist of two *O.H. Perry*-class frigates, one *Spruance*-class destroyer, one *Arleigh Burke*-class destroyer, three merchant ships, and one tanker. Soviet forces consist of two *Akula*-class SSNs and one *Oscar*-class SSGN.

**Setup:** All NATO task forces begin within two hexes of hex 1216. Soviet task forces may be placed anywhere except in Bödo or within two hexes of hex 1216.

**Victory:** The game lasts for 10 turns. NATO wins if three or more merchant ships survive and reach Bödo. Each Soviet sub sunk offsets the loss of one merchant ship. Failing this, the Soviet player wins.

8

**Sink the Nimitz**

A barrier of Soviet submarines in the gap between Iceland and Scotland must block the northward passage of a US carrier battle group.

**Forces:** Soviet forces consist of two *Akula*-class SSNs and two *Oscar*-class SSGNs. NATO forces consist of one *Nimitz*-class carrier, one *Belknap*-class cruiser, one *Bunker Hill*-class cruiser, one *Spruance*-class destroyer, and one *Knox*-class frigate.

**Setup:** Place all Soviet task forces on a line from hex 1816 to hex 1419. Once the game starts, they must remain within two hexes of their starting line. The NATO task force or forces enter from the southwest map edge.

**Victory:** The game lasts for seven turns. The Soviets must sink the carrier to win. NATO must get the carrier, still capable of launching aircraft, from the board edge to hex 1109, where it will launch a series of air strikes.

9

**The Combination**

At the start of war, small groups of Soviet ships are scattered across the Norwegian Sea, intermixed with several NATO submarines. There are also many neutral vessels in the area. The subs have to find and sink the Soviet ships before they reach port. To help the NATO subs locate the surface groups, a P-3 Orion will help sort out the real Soviet ships from the possible targets.

**Forces:** The Soviet player has four task forces, each made up of one merchant or tanker and one warship (drawn from a total of two *Krivak*-class frigates, one *Udaloy*-class destroyer, and one *Sovremennyy*-class destroyer). The Soviet player also gets one additional task force with one *Akula*-class SSN.

The NATO player has two *Los Angeles*-class submarines and a P-3 Orion patrol aircraft.

**Setup:** The Soviet player places his units, real and dummy, anywhere on the map, except that no task force can be placed within eight hexes of Severomorsk or within three hexes of another Soviet task force. After all Soviet task forces are placed, the NATO player places his task forces anywhere he wishes, except that they may not be within four hexes of Severomorsk or adjacent to any Soviet task force.

**Victory:** The game lasts for 10 turns. The Soviet player wins by getting three or more of his tanker/merchant ships to Severomorsk. Each NATO submarine sunk counts as a Soviet ship reaching port. Failing this, the NATO player wins.

**Special Rule:** Due to exceptional activity by short-range Soviet ASW aircraft operating out of Severomorsk, no NATO task force may come within four hexes of Severomorsk during the game.

10

**Patroller**

A group of Soviet submarines have left port and are moving toward the open sea. NATO must

use patrol aircraft to hunt down the subs and sink them.

**Forces:** The Soviet player has three *Akula*-class SSNs and one *Oscar*-class SSGN. The US player has one P-3 Orion patrol aircraft and one *Los Angeles*-class SSN.

**Setup:** The Soviet player places his task forces within 10 hexes of Severomorsk. The NATO player places his task forces at least 15 hexes away from Severomorsk. The P-3 Orion is based at Keflavik.

**Victory:** The game lasts for 15 turns. The Soviet player wins if he exits three or more submarines off of the southwest edge of the map. Failing this, the NATO player wins.

11

**Support Mission**

Replay Scenario 8 Sink the *Nimitz* (with the addition of dummies as in Scenario 5 Shadow Boxer), but add an additional Soviet *Akula*-class SSN, and a NATO P-3 Orion patrol plane. The new *Akula* must set up on the line with the other Russian subs, while the P-3 is based in Keflavik.

12

**Backfires in the Sky**

A US carrier battle group must enter the North Sea, where it will conduct a series of air strikes.

**Forces:** The NATO player has one *Nimitz*-class carrier, one *Bunker Hill*-class cruiser, one *Arleigh Burke*-class destroyer, and two *O.H. Perry*-class frigates. The *Nimitz* has two flights of S-3 Vikings and one flight of E-2 Hawkeyes.

The Soviet player has two flights of Bear Ds, one flight of Bear Fs, and three flights of Backfires, all based at Severomorsk. The Soviet player also has two *Akula*-class SSNs.

**Setup:** The NATO player must start all ships at Leuchars. The Soviet player starts all aircraft at Severomorsk and all task forces within 10 hexes of Severomorsk.

**Victory:** The game lasts for 12 turns. The NATO player must get the carrier, still capable of launching aircraft, from Leuchars to within two hexes of hex 1107, where it will launch a series of air strikes. Failing this, the Soviet player wins.

## 13

**Sierra Strike**

A NATO carrier battle group must find and destroy three Soviet task forces.

**Forces:** NATO ships consist of one *Nimitz*-class aircraft carrier, one *Bunker Hill*-class cruiser, one *Arleigh Burke*-class destroyer, and two *O.H. Perry*-class frigates. Air assets consist of two flights of F-18s, two flights of S-3s, two flights of A-6s, and one flight of E-2s.

The Soviets have one *Kirov*-class battle cruiser, one *Kara*-class cruiser, one *Sovremennyy*-class destroyer, one *Udaloy*-class destroyer, one *Akula*-class submarine, one *Ivan Rogov*-class amphibious ship, and one tanker.

**Setup:** The Soviet player starts all task forces within 10 hexes of hex 0911. The NATO player starts in hex 0911.

**Victory:** NATO wins by sinking at least five Soviet ships by turn 10 and keeping the *Nimitz* afloat. The Soviets win either by limiting their losses to fewer than five ships or by sinking the carrier by turn 10.

**Special Rule:** The NATO player only has enough long-range ASMs to equip the A-6s or F-18s for 16 attacks (one attack each by four flights). After that, these aircraft must use short-range ASMs or bombs.

## 14

**Backfires in the Sky (Reprise)**

This scenario is identical to Scenario 12, but is played with the air to air

combat rules in effect and with the following additions to the forces:

**NATO:** The *Nimitz* also has three F-14 flights, three F-18 flights, and one A-6 flight. There are two F-15 flights and one P-3 flight at Keflavik.

**Soviet:** There are two Su-27 flights and one additional Backfire flight at Severomorsk. (If playing with the advanced aerial tanker rule, add one IL-76 Candid Tanker at Severomorsk.)

## 15

**Midway 2000**

Soviet and American task forces are on a collision course in the Norwegian Sea.

**Forces:** Use all of the forces included in the game. All ship cards and all full-strength aircraft flights are used. The generic amphibians and merchants are added to the NATO forces; the generic tanker is added to the Soviet forces.

**Setup:** The NATO player starts his task forces southwest of a line between hexes 0115 and 1421. All aircraft in excess of the *Nimitz*'s air group are deployed on airfields as follows:

**Leuchars:** Two flights of F-15s, four flights of Tornados, two flights of A-6 Intruders, one flight of P-3 Orions.

**Keflavik:** Two flights of F-15s, one flight of P-3 Orions.

**Bödo:** Three flights of F-18s.

The Soviet player starts his task forces within 10 hexes of Severomorsk. All aircraft in excess of the *Tbilisi*'s air group are deployed at Severomorsk.

**Victory:** The game lasts for 21 turns. Each player receives one victory point for each hull hit of damage inflicted on a ship which is still afloat at the end of the game, two points for each hull hit on a ship which sinks, and one point for each aircraft shot down. The player with the most victory points by the end of the game wins.

# Advanced Scenarios

The advanced scenario rules are designed to provide players with a very wide variety of game situations. In each scenario, each player will be secretly assigned a mission and will select forces to carry out the objectives of his mission. The game is then fought until one side or the other can claim victory.

## ASSIGNING MISSIONS

There are 18 mission counters provided with the game, two sets numbered consecutively from one to nine. Punch these out and place them in a cup. Each player draws one counter and then reads the mission description provided below.

Note that each side has a separate description corresponding to each mission number. Also, since there are two of each mission number, it is possible for both sides to draw the same mission.

## PURCHASING ASSETS

Each mission provides the player with a "mission budget" which can be used to purchase assets (ships and aircraft). The mission budget is expressed in asset points. Each asset point can be used to purchase one four-aircraft flight of planes, or can be applied against the purchase of a ship. Each ship costs asset points equal to its hull value, with the following exceptions:

**High-Cost Ships:** The *Kirov*, *Arleigh Burke*, and *Bunker Hill* are classed as high-cost ships. Each of these ships costs twice as many points as its hull value. (The *Kirov* costs eight points instead of four; the *Arleigh Burke* and *Bunker Hill* cost four points instead of two.)

**Low-Cost Ships:** The *Akula* is classed as a low-cost ship. It costs one point less than its hull value. (Each *Akula* costs two points, not three).

**General Limits:** Players cannot purchase more assets than data cards or counters are provided for in the game. For example, the Soviet player can purchase up to three *Akula*-class submarines, while the NATO player can purchase only two *Los Angeles*-class submarines.

Aircraft carriers are purchased without aircraft on them; aircraft must be purchased in addition to the carrier itself.

If a player does not purchase an aircraft carrier, air counters representing the normal air group of the carrier are removed from the forces available for purchase by that player. For example, the NATO player may not purchase any E-2 Hawkeye or S-3 Viking aircraft unless he first purchases the *Nimitz*.

**Generic Forces:** The two generic amphibious vessels and two of the generic merchant vessels are considered to be NATO forces for these games. One merchant vessel and one tanker are considered to be Soviet forces.

## BASES

Leuchars is always a NATO base and Severomorsk is always a Soviet base.

In some scenarios, Bödo and Keflavik begin the game as Soviet bases. This will be indicated in the NATO mission description. If the NATO player draws mission description 1, 2, 3, or 4, he must immediately inform the Soviet player that Bödo and Keflavik are available as captured bases. (He should not reveal the actual mission number he has drawn.)

In all other cases, Bödo and Keflavik begin the game as NATO bases.

## VICTORY

Each game lasts for 21 turns (7 days) or until one player concedes defeat, whichever comes first. Both players then reveal their missions and compare objectives to determine the winner.

It is possible (but not likely) that both sides will achieve their objectives. If so, the side with a higher proportion of its asset points left unspent wins. If this is the same for both players, the side with the lower asset budget wins. If this is the same for both sides, both players win.

## STARTING THE GAME

At the start of each game, players take turns placing their forces on the map, one task force or patrol aircraft marker at a time. Task forces may be deployed either in or within four hexes of a friendly base. Patrol aircraft may be landed or deployed anywhere within their operational radius from a friendly base. (Carrier-based patrol aircraft may not be deployed until after the carrier task force is placed on the map.)

No marker may be placed in a hex already containing an enemy base, patrol aircraft, or task force.

## NATO MISSION DESCRIPTIONS

### Mission 1

**1** **Background:** Soviet forces opened hostilities with a surprise amphibious assault on Iceland, capturing the island and Keflavik airbase. Since then, overland forces have also taken Bödo. Soviet commerce raiders have broken out into the North Atlantic and NATO naval assets are stretched to the limit protecting convoys. You must conduct an economy of force operation in the north, tying down as many Soviet forces as possible to give your own forces in the Atlantic some relief.

**Objective:** Prevent the Soviets from achieving their objective.

**Forces:** 15 points.

### Mission 2

**2** **Background:** Soviet forces opened hostilities with a surprise amphibious assault on Iceland, capturing the island and Keflavik airbase. Since then, overland forces have also taken Bödo. Soviet commerce raiders have broken out into the North Atlantic and NATO naval assets are stretched to the limit protect-

ing convoys. You must conduct a holding action in the north, as most assets have been withdrawn to fight the convoys throughout the Atlantic.

**Objective:** Destroy at least six enemy asset points, and destroy at least two more asset points of Soviet forces than you lose yourself. Failing this, prevent the Soviet player from achieving his objective.

**Forces:** 10 points.

3

### Mission 3

**Background:** Soviet forces opened hostilities with a surprise amphibious assault on Iceland, capturing the island and Keflavik airbase. Since then, overland forces have also taken Bödo. As a prelude to a counterattack into the North Sea, you must strike a blow against Soviet air power by crippling either the Keflavik or Bödo airbase.

**Objective:** Destroy the runway at either Keflavik or Bödo. Failing this, prevent the Soviets from achieving their objective.

**Forces:** 25 points.

4

### Mission 4

**Background:** Soviet forces opened hostilities with a surprise amphibious assault on Iceland, capturing the island and Keflavik airbase. Since then, overland forces have also taken Bödo. The time has come to launch a major counterattack in the north.

**Objective:** Recapture the base at either Keflavik or Bödo by amphibious assault. In addition, destroy either 10 Soviet asset points or half the Soviet force, whichever is greater.

**Forces:** 45 points.

5

### Mission 5

**Background:** Fighting in the north has been fairly even until now, but a renewed Soviet overland push in northern Norway is threatening the base at Bödo.

**Objective:** Land supplies and reinforcements at Bödo. One merchant ship and one amphibious ship must each spend one full turn in the Bödo hex for the mission to be a success.

**Forces:** 20 points.

6

### Mission 6

**Background:** Major surface forces will be entering the North Sea soon to conduct operations against Severomorsk. Your mission is to prepare the way by engaging and destroying enemy naval and aviation assets.

**Objective:** Destroy at least six asset points worth of enemy forces, and destroy at least two more enemy asset points than you lose yourself. In addition, prevent the Soviets from achieving their objective.

**Forces:** 25 points.

7

### Mission 7

**Background:** Various commitments in other theaters make it impossible to conduct extensive combat operations where at the moment. However, enemy activity must be monitored to alert the NATO leadership to any significant increase in enemy activity.

**Objective:** Have one surface ship or submarine within three hexes of Severomorsk at the end of the game.

**Forces:** 10 points.

8

### Mission 8

**Background:** The war is going against NATO, and morale is sagging. An important and visible victory is required to boost the morale of troops in all of the theaters.

**Objective:** Destroy the runway at Severomorsk airfield or sink either the *Tbilisi* or *Kirov*.

**Forces:** 30 points.

9

### Mission 9

**Background:** Success in other theaters has created a situation in which considerable assets can be massed for a knockout blow in the north.

**Objective:** Destroy 90% of the Soviet assets in the game. Alternatively, destroy over half of the Soviet assets and destroy the runway at Severomorsk airfield.

**Forces:** 50 points.

## SOVIET MISSION DESCRIPTIONS

1

### Mission 1

**Background:** Efforts to push forces into the Atlantic have been frustrated by NATO forces based at Keflavik airfield. The decision has been made to launch a major attack on the airfield.

**Objective:** Capture Keflavik airfield. Failing this, destroy the airfield at Keflavik, destroy at least 10 NATO asset points (or half of NATO's total, whichever is smaller), and prevent the NATO player from achieving his objective.

**Forces:** 45 points.

**Alternate Background:** The early capture of Keflavik airfield has given you a considerable edge in the battle of the Atlantic. Soon NATO can be expected to launch a counterattack. To meet this, the forces on Iceland must be reinforced and resupplied.

**Alternate Objective:** Escort a resupply convoy to Iceland. At least one merchant ship or tanker must spend two full turns in the Keflavik hex for Iceland to be resupplied. In addition, NATO must not recapture Keflavik or Bödo.

**Forces:** 30 points.



2

**Mission 2**

**Background:** Groups of friendly ground forces have been halted in their drive in northern Norway and an out-flanking move through neutral Finland or Sweden has been ruled out on political grounds. The only alternative is an amphibious end run.

**Objective:** Capture Bödo airfield.

**Forces:** 25 points.

**Alternate Background:** The early capture of Keflavik and Bödo airfields has given you a considerable edge in the battle of the Atlantic. NATO ground forces are driving up the coast of Norway toward Bödo, however. To meet this threat, the forces in Bödo must be reinforced and resupplied.

**Alternate Objective:** Escort a merchant convoy to Bödo airfield. At least one merchant ship must spend two full turns in the Bödo hex for the mission to be accomplished. In addition, NATO must not recapture Keflavik or Bödo.

**Alternate Forces:** 15 points.

3

**Background:** Groups of friendly forces have broken out into the Atlantic, leaving scarce resources for combat operations in the north. You must conduct an economy of force operation in the north, tying down as many NATO forces as possible to allow a superior concentration of your own forces in the Atlantic and Pacific.

**Objective:** Prevent the NATO player from achieving his objective.

**Forces:** 15 points.

4

**Mission 4**

**Background:** The naval war has been going very badly, and most of the resources of the Northern Fleet have been lost. Nevertheless, there remains the possibility of a victory by the ground forces if total defeat at sea can be prevented. You must continue the battle at sea with limited resources.

**Objective:** Destroy at least six enemy asset points, and destroy at least two more asset points of NATO forces than you lose yourself. Failing this, prevent the NATO player from achieving his objective.

**Forces:** 10 points.

5

**Mission 5**

**Background:** The Northern Fleet has succeeded in breaking out a number of major fleet elements through the G-I-UK Gap, and these elements have had considerable success against NATO's Atlantic convoys. Now, however, they are in desperate need of fuel and ammunition if they are to continue the fight. Rather than have them run the gauntlet of NATO naval and aviation forces back to port and then attempt another breakout, it has been decided to run a replenishment convoy through to them.

**Objective:** Exit either one merchant ship or one naval tanker off of the southwest board edge.

**Forces:** 20 points.

6

**Mission 6**

**Background:** A major naval effort will soon be launched by the Northern Fleet. Your mission is to prepare the way by engaging and destroying enemy naval and aviation assets.

**Objective:** Destroy at least six asset points worth of enemy forces, and destroy at least two more enemy asset points than you lose yourself. In addition, prevent the NATO player from achieving his objective.

**Forces:** 25 points.

7

**Mission 7**

**Background:** Successful prosecution of the war in Europe requires interdiction of the convoy routes, and this requires placing a substantial naval force astride the Atlantic sealanes.

**Objective:** Exit at least eight asset points of naval combatants (*Ivan Rogovs*, tankers, and merchant ships do not count) off of the southwest edge of the board.

**Forces:** 20 points.

8

**Mission 8**

**Background:** The war is going against the Soviet Union, and morale is sagging. An important and visible victory is required to boost the morale of troops in all of the theaters.

**Objective:** Destroy the runway at Leuchars airfield or sink either the *Nimitz* or *Iowa*.

**Forces:** 30 points.

9

**Mission 9**

**Background:** Success in other theaters has created a situation in which considerable assets can be massed for a knockout blow in the north.

**Objective:** Destroy 90% of the NATO assets in the game. Alternatively, destroy over half the NATO assets and destroy the runway at Leuchars airfield.

**Forces:** 50 points.

# The Tools of Naval Warfare

## US NAVAL COMBATANTS



### FFG *Oliver Hazard Perry*

Designed primarily as an ASW ship, the *Perry* carries two helicopters, Harpoon missiles, torpedoes, 76mm gun, a Phalanx antimissile system, and a good sonar suite. This ship is most effective when it is used to escort merchant or replenishment ship convoys.

The *Perry* costs \$191 million and has been built in the largest numbers of any post-WWII ship class. The Soviet *Krivak*-class frigate is more powerfully armed and is faster, but it doesn't have helicopters or comparable sensors. The most famous member of the *O.H. Perry* class is the *Stark*, which was hit by two Iraqi Exocet missiles in the Persian Gulf in 1987.



### DDG *Arleigh Burke*

Designed to be a general-purpose destroyer, this class of powerful ships is intended to carry the US Navy well into the next century. *Burke*-class vessels use a smaller version of the Aegis system, and the same vertical launching system will also fire Tomahawk and vertical launch ASROC, making the ship an effective surface strike platform and

only slightly less capable in ASW. The *Burke*'s one failing is a lack of a helicopter hangar. While she can refuel and rearm other ship's helicopters, she has no hangar herself.

These ships are expensive: \$700 million each. The latest Soviet counterparts are the *Sovremenny* and *Udaloy*, but the Russian destroyers are more single-purpose vessels, and no Soviet ship short of the *Slava*-class cruisers (not included in the game) or the *Kirov*-class nuclear battlecruisers has the antiair capability Aegis provides.



### DD *Spruance*

The *Spruance* is classed as a destroyer but it is as big as a WWII light cruiser. It may look underarmed, but it is a very capable opponent. Its hull design was used as the basis for the *Ticonderoga* (*Bunker Hill*)-class cruisers. Various configurations of Sea Sparrow, Harpoon, and Tomahawk missiles, helicopters, torpedoes, and excellent sonars make the *Spruance* a fearsome ASW platform. It can also be used as the flagship for a group of less-capable frigates. Its point defenses are barely adequate, and it would need protection from air attacks.

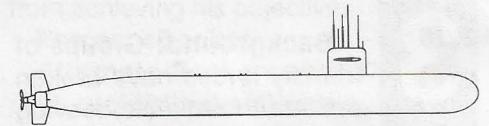
The Soviet *Udaloy*-class destroyer has a similar role, but has weaker sensors and better point defenses. Each *Spruance*-class ship costs \$134 million.



### CG *Bunker Hill*

The *Bunker Hill*-class is the most powerful anti-aircraft ship in the US fleet. It was designed to defend carrier battle groups against aircraft and antiship missile threats. It also has excellent anti-submarine capabilities.

The ship's greatest asset, however, is its Aegis system, which completely integrates the ship's weapons and command systems. This Aegis system allows each ship to automatically detect, track, classify, and engage multiple air targets. The Soviet's new *Kirov* class battle cruiser also has a multiple-target AAW system, but it is less effective than the Aegis. The only problem with the *Bunker Hill* is its \$1 billion cost.



### SSN *Los Angeles (Improved)*

The *Improved Los Angeles* is a new variant of the basic design, incorporating technology not in existence when the class was originally built. These include vertical-launch cruise missiles, a shrouded propulsor, anechoic coating, and an integrated combat system. These increase the boat's firepower and make a quiet design even quieter. The nearest Soviet equivalent is the brand-new *Akula* (*Shark*) class. *Akula* is almost as quiet as the original *Los Angeles* design, but it does not have as good a sonar suite. There is no Soviet match to the *Improved Los Angeles* design. Each *Los Angeles* submarine costs \$330 million; the improved boats cost approximately \$500 million.



**FF Knox**

Although more *Knox* class ships have been built than any other frigate class since WWII, they have been severely criticized for their reliance on a single propeller shaft. This not only limits the speed of such a large ship, but also makes it highly vulnerable if hit in the engineering spaces. The *Knox* class has a good antisubmarine suite, including a helicopter and excellent sonars. The class' poor point defenses force its use on the edge of formations where it can detect and attack submarines while being screened from air attack.

When built, the *Knox* cost \$30 million, but with enhancements it is worth much more now. The nearest Soviet equivalent is the *Krivak* class which has better AAW capability but is less effective in an ASW role.



**CG Belknap**

The *Belknap* (pronounced BELL-nap) is a general-purpose, guided-missile cruiser built to screen carrier battle groups from air attack. With its one SAM launcher, eight SSMs, helicopter, 5" gun, Gatlings and variety of radars and sonars, this ship has more than adequate point defense, ASW, and antisurface capabilities. As an escort vessel, the *Belknap* should be placed at the edge of the main body where it can screen air and sub attacks.

One problem with the *Belknap* is that

its 5" gun is located aft, which means that the ship must be steaming away from gun targets. The nearest Soviet equivalent is the *Kara* class which is also a balanced escort design, but has more emphasis on an ASW role. *Belknap*-class ships cost approximately \$55 million.



**BB Iowa**

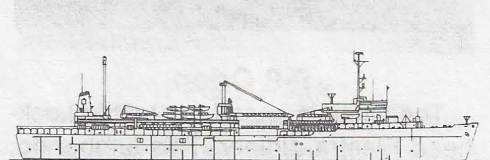
The last of the "fast battleships" built in the 1940s, the *Iowa* served in WWII and Vietnam in a fire support role. Its enormous 16" main guns have a range of 20 miles, and its Harpoon and Tomahawk missiles can reach up to 250 miles. Equipped with heavy armor that can withstand even the largest cruise missile, the *Iowa* can sustain speeds in excess of 30 knots. Since this ship lacks sophisticated radars and has no sonar, it depends on other ships to provide protection from air and submarine attacks. The *Iowa* is manpower-intensive and requires the crew of four cruisers. The nearest thing the Soviets have is the *Kirov*-class battle cruiser, which is lightly gunned but has a heavy missile armament. These ships cost \$100 million when built in WWII, but would cost much more if built today.



**CVN Nimitz**

The *Nimitz* is the largest and most advanced class of aircraft carrier ever built. Designed as a multimission carrier, the *Nimitz* can accomplish just about any task that involves air power at sea, such as attacking surface targets, hunting submarines, and supporting amphibious groups. It has good point defenses, including multibarrel 20mm guns, Sea Sparrow missiles, and a large number of radars. It also has the ability to sustain heavy punishment and continue to function.

These ships cost about \$500 million, not including their aircraft. In comparison, the Soviet *Tbilisi*-class, the largest operational Soviet aviation ship, has less than half the embarked air group of the *Nimitz*. In fact, one *Nimitz*-class carrier has a larger fixed-wing air group than the combined fixed-wing air groups of all Soviet carriers currently in service.



**Generic Merchant**

This representative class is used not only to move commercial cargoes from place to place, but also to carry troops and combat stores in time of war, especially in amphibious assaults. Carrying the cargo either in bulk or in containers,

these ships are the reason for the existence of a navy. Their lack of sensors and weapons makes them little more than targets in a naval formation, but they should be heavily guarded. Unless they arrive at their destination intact, the naval force guarding them has failed in its mission. Ships with these characteristics serve under every flag.



### Generic Amphibious Ship

The US maintains a large variety of amphibious ships, each specialized to perform one or more of the many tasks that are required to put troops onto a hostile shore. All of these ships have a limited speed and only a limited capability to defend themselves. These ships are the reason warships exist—to defend their own and attack the enemy's. Their price varies from \$10 million to \$250 million, and they can be found in many countries' navies. The best equivalent in the Soviet fleet is the *Ivan Rogov* class.

## NATO COMBAT AIRCRAFT



### P-3 Orion

The Orion is based on the old Lockheed Electra airliner. This lumbering, ungainly, maritime patrol plane appears harmless, but is actually a very potent ASW weapon. In fact, the Orion is as effective at hunting and detecting submarines as is another sub. With a wide variety of first-line sensors, sophisticated on-board data processing, and a large weapons load, the P-3 is an extremely effective aircraft. The distinctive rear

protuberance is a magnetic anomaly detector (MAD), which can warn the aircraft when it is over a large metal object.

In addition, the P-3 has an excellent range and a patrol endurance of up to 10 hours. Normally the P-3 carries a crew of 10, five members of which are technical specialists who operate the aircraft's electronic equipment. In addition to its ASW weapons, the Orion can also carry Harpoon missiles for attacking lightly defended surface vessels, such as merchant ships.



### A-6E Intruder

The A-6E Intruder is the navy's carrier-based, all-weather, day or night, medium attack aircraft. It can carry a tremendous amount of ordnance of all types, including Harpoon missiles, bombs, and even nuclear weapons. The A-6E's wide array of air to ground sensors gives it phenomenal targeting accuracy (when everything works, that is). It can attack heavily defended ship and ground targets, but should be escorted by fighters if possible.

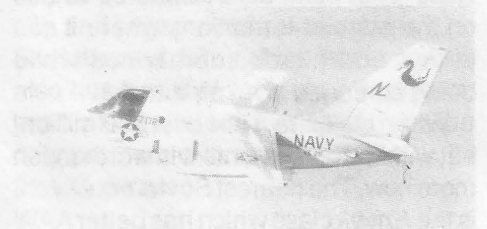
A specialized tanker variant of the A-6E used to be used on aircraft carriers, but now a refueling module is used to convert a standard A-6E to a tanker on an as-needed basis. A-6E Intruders are also flown by marine pilots.



### F-14A Tomcat

The Grumman F-14A is the workhorse fighter of US naval aviation. It is the

standard carrier-based fighter and is considered to be the best long-range, all-weather fighter aircraft in the world. Its AWG-9 radar can detect targets 100 miles away, and its fire control system can simultaneously track 24 targets and engage six independent targets with Phoenix missiles. The F-14A would be only a mediocre dogfighter except for its computer-controlled, variable-geometry wings which give it a huge advantage when maneuvering. Its one weak spot is its slightly underpowered engine which can stall out under certain conditions. As a result, the pilot must "baby" the engine at times. Each F-14A costs \$21 million. Its nearest Soviet equivalent is the MiG-31, which has much poorer range and maneuverability.



### S-3 Viking

The S-3 Viking is a carrier-based counterpart to the P-3 Orion aircraft. It is an excellent ASW platform and has an all-weather secondary surface strike capability as well. The Viking's primary mission is to patrol near a carrier task force in order to search for and attack any hostile submarines. Like the Orion, the Viking carries a comprehensive array of sophisticated sensors and data processing equipment. It carries advanced sonobuoys and MAD equipment to detect quiet, deep-diving submarines. Unlike the Orion, the Viking's rear MAD boom is retractable into the fuselage. The S-3B can carry Harpoon missiles. These aircraft cost about \$10 million each.



### E-2C Hawkeye

A four-plane squadron (one flight in game terms) of Hawkeyes is carried aboard every US aircraft carrier, and these Hawkeyes may well be the most important planes on the ship. Flying at high altitude, the Hawkeye extends the range of the carrier's sensors and allows a battle group to detect the approach of low-flying enemy aircraft in sufficient time to deal with them. This mission is called airborne early warning (AEW). A carrier usually maintains one Hawkeye in the air at all times.

Sporting a distinctive, 24-foot-diameter, saucer-shaped radar dome, the Hawkeye is worth every bit of the \$50 million price tag.

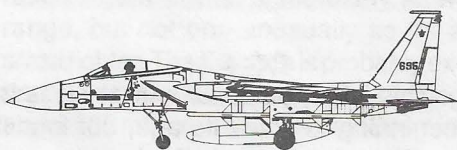


### F-18 Hornet

The single-seat McDonnell Douglas F-18 Hornet was designed as a carrier-borne replacement for the navy's A-7 Corsair II, but with the added punch of a long-range air to air capability. This allows the Hornet to supplement the carrier's F-14 Tomcats and to adequately defend itself if intercepted while on a strike mission. The Hornet is an extremely maneuverable aircraft. In fact, its only performance flaw is its relatively short range. The Hornet has nine external weapons mounts and can carry an assortment of air to air and air to surface weapons. It also has a nose-mounted, 20mm, six-barrel gun.

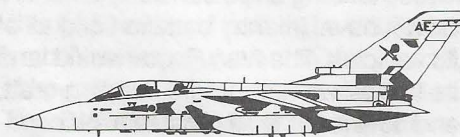
The F-18, like the A-6, is also flown by marine pilots, and since they are trained for carrier operations, land-based marine squadrons could be used to supplement

a carrier's air group. The closest Soviet match to the Hornet is the MiG-29 Fulcrum, which is similar in size and maneuverability, but probably can't carry the Hornet's variety of weapons.



### F-15 Eagle

One nickname for the McDonnell Douglas F-15 is "The Starship," because of its powerful radar and large missile armament. This plane was designed as an all-weather air superiority fighter, and it is the best in the world. Although the Eagle is a huge aircraft, its large wing area and powerful engines give it exceptional maneuverability. In fact, the F-15 is a match for any aircraft currently flying, and is far better than most. Its only flaw is its size, which makes it easier to spot when in a dogfight. The Eagle costs about \$27 million. The best Soviet match for the F-15 is the brand new Su-27 Flanker, which appeared about 10 years after the Eagle's debut.

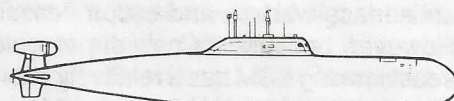


### Tornado F.3

The twin-engine Panavia Tornado F.Mk3 is the air defense version of the successful Tornado attack aircraft. It is somewhat unusual for a long-range, low-altitude penetration aircraft to be converted to a fighter role, but the Tornado's advanced electronics, all-weather capability, and variable-sweep wing system make it an excellent air interceptor. In addition, the F.3 carries a good armament of medium- and short-range air to air missiles and can effectively engage dedicated dogfighters such as the Su-27 Flanker at long range. The F.3's primary mission is the air defense of Britain and the protection of NATO forces operating

in the North Sea. It can patrol for several hours and is capable of in-flight refueling. The closest Soviet equivalent is the MiG-31 Foxhound, which has longer-ranged missiles but is not nearly as maneuverable as the Tornado. The aircraft costs about \$30 million.

## SOVIET NAVAL COMBATANTS



### SSN Akula

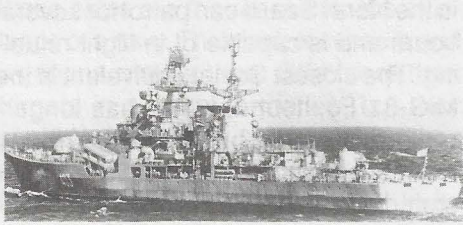
The *Akula* (*Shark*) is the most current nuclear attack submarine class produced by the USSR. Its sensor suite is excellent; it is one of the few submarines fitted with a passive towed-array sonar. While not an even match for the latest *Improved Los Angeles*-class boats, the *Akula* can give them a hard time.

To compensate for their somewhat inferior sensors and weapons systems, the Soviets usually run the *Akula* in pairs. These subs, which are the best the Soviets have, would aggressively seek out and destroy enemy submarines during wartime. They would be an extremely dangerous foe to NATO units. The *Akula* costs about \$500 million in US terms to build.



### FFG Krivak

The *Krivak* is primarily used for screening from air and submarine attacks in an escort role. It is very strong on AAW systems and has effective ASW capabilities. It doesn't, however, have any helicopters or "last ditch" antimissile defenses. Because of its heavy fuel consumption at cruising speed, the *Krivak* is somewhat short on endurance. Its closest NATO equivalent would be the British *Broadsword* class.



### DDG *Sovremennyi*

The *Sovremennyi*'s (pronounced *sov-re-MEN-yi's*) primary role is that of an antisurface warfare and escort vessel. However, because its new supersonic seaskimming SSM has a relatively short range, it is essential for this ship to maneuver close to its target. At the same time, the *Sovremennyi* class' AAW system is also short ranged, meaning that it will have to stay dangerously close to the ships it's intended to protect.

The *Sovremennyi*'s ASW capability is minimal. In comparison, no Western navy builds destroyers with such powerful antisurface weapons but so little ASW armament. Probable cost in US terms would be \$200 million. The US *Charles F. Adams* is a good match in capability, although the *Sovremennyi* is a newer design.



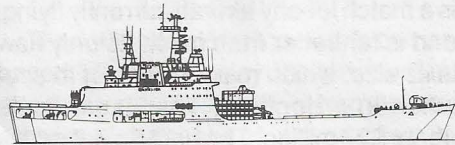
### DD *Udaloy*

Designed from the keel up as a specialist antisubmarine warfare ship, the *Udaloy* carries two helicopters, batteries of missiles, rocket launchers and torpedoes, and is fitted with excellent underwater sensors. This ship has good range and endurance, but carries no antisurface weapons and only a short-range surface to air missile system for self-defense. In short, it may do a good job of hunting subs, but may need protection itself. These ships cost about \$200 million. The US *Spruance* class has a similar role, but has better sensors and is a more balanced design.



### CG *Kara*

This large, powerful cruiser class is beginning to show its age, but is still moderately effective. Designed as an ASW platform, *Kara*-class vessels have a heavy anti-aircraft battery, especially for the mid-1970s when they appeared. There is no real analog to these ships in the US or the West. The *Spruance* fulfills roughly the same role, but it has a much lighter anti-aircraft armament and better sensors. These ships probably cost the equivalent of \$100 million each when they were built.



### LPD *Ivan Rogov*

The *Ivan Rogov* was the first Soviet amphibious ship other than an LST. These landing ships can carry an entire Soviet naval infantry battalion and all of its vehicles. The *Ivan Rogov* would land its troops via helicopters, landing craft, and hovercraft. It has limited AAW capabilities, but must be heavily escorted. It can provide some shore bombardment, but has no warfare ability at sea.

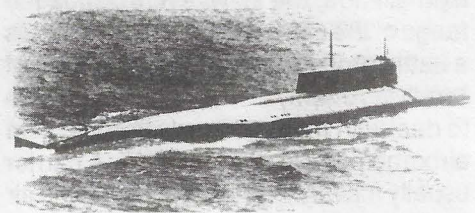
In US terms, the *Ivan Rogov* would cost about \$50 million. This class has been built at a very slow rate, indicating either low priority or difficulties with the design. The US *Austin* or British *Fearless* classes fulfill similar roles for NATO but are more capable vessels.

### BCGN *Kirov*

The ultimate realization of the Soviet rocket cruiser concept, the *Kirov* is the most powerfully armed surface warship in the world today. Capable of anti-air, antisurface and antisubmarine warfare, it can serve as either a task force flagship or as the partner of a *Tbilisi*-class

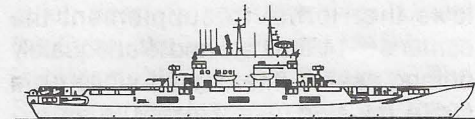


carrier. Its armament includes hundreds of missiles, guns and mortars, and three helicopters. Costing up to \$2 billion each, the *Kirov* class is very expensive for the Soviets to build. The US Navy really has nothing that compares to the *Kirov*.



### SSGN *Oscar*

The huge *Oscar* submarine is one of the most powerful antishipping platforms in the world. It is extremely quiet, equipped with good sensors, and can launch large numbers of SS-N-19 anti-ship missiles from long ranges. The *Oscar* depends on its own sensor suite out to about 60 nautical miles, but would rely on satellite and aircraft for targeting information at greater distances. It has good ASW sensors and adequate weapons, but it is an extremely large active sonar target and not very maneuverable. In wartime, this sub would always be escorted by a capable SSN. The *Oscar* is definitely a capital unit of the Soviet Navy.



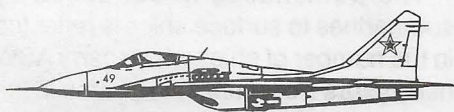
### CV *Tbilisi*

A new dimension in Soviet naval design, *Tbilisi* is the first conventional aircraft carrier ever produced in the Soviet Union (as previous carriers have concentrated on helicopters and VSTOL aircraft). Its deckload consists of air superiority fighters and ASW helicopters, indicating that its primary role will be to

provide air and antisub protection for a Russian task force.

It is smaller than most US carriers (about the size of a post-WW II *Midway* carrier). Unlike US carriers, though, it does not use catapults, but instead launches its aircraft with a ski jump. This vessel should, of course, be heavily protected against close-in attack, but it can contribute to a task force's survival, as well.

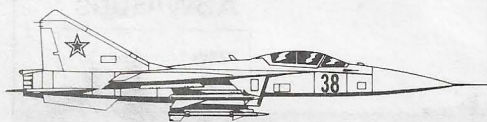
### SOVIET NAVAL AIRCRAFT



#### Su-27 Flanker

The single-seat Su-27 Flanker is the Soviet's newest all-weather, long-range fighter. This powerful aircraft has a beautiful design and is very similar to the US F-15 Eagle in appearance. The Flanker can carry a large number of air to air missiles—more than the F-15, in fact—and has excellent maneuverability. It has the best air intercept radar that the Soviets have produced, but that is still not as good as Western equipment. However the aircraft also mounts an infrared sensor which very few Western aircraft carry.

The Flanker has a secondary ground attack capability by virtue of its large bomb-carrying capability. A naval version of the Flanker is launched from the *Tbilisi*, and land-based versions are also flown.

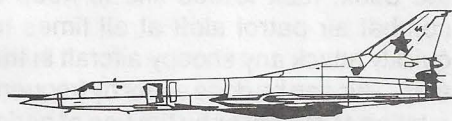


#### MiG-29 Fulcrum

The Mikoyan-Gurevich MiG-29 Fulcrum is one of the newest Soviet fighters. It is very maneuverable and can carry a large missile load. Its nearest Western counterparts are the F-16 Falcon and the F-18 Hornet, and it would be a match for either. It has a very so-

phisticated radar—not as good as those produced in the West, but much better than previous Soviet models.

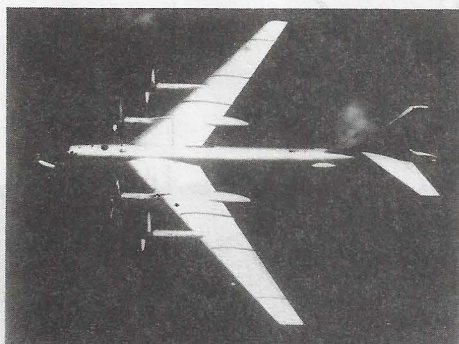
The Fulcrum would be used in wartime primarily to escort strike aircraft, intercept incoming aerial targets, and attack surface targets. It has a relatively short range, but not one unusually so for a small fighter. The Fulcrum is probably expensive for the Soviets to build, costing about \$25 million in equivalent US terms.



#### Tu-22M Backfire

The Tupolev Tu-22M Backfire is one of the few bombers ever built with afterburners. It is a large, very powerful, modern aircraft. The Backfire can deliver a large payload, including cruise missiles and bombs, against a variety of targets. It has a very strong jamming suite to help penetrate enemy defenses, which, combined with its high speed on afterburner, would make it very hard to catch before it launched its missiles. It is an extremely dangerous opponent.

The Backfire would probably cost about \$50 million if built in the US. There is no Western equivalent to this aircraft, although the B-1 has some similarities. The Backfire, however, is a medium-range strike aircraft while the B-1 is a long-range, strategic strike asset.



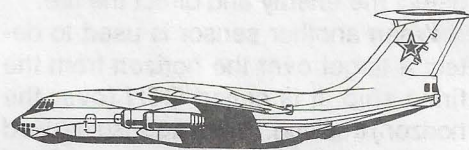
#### Tu-95 Bear D

The elderly Tupolev Tu-95 Bear has now been in Soviet service for over 30 years and has performed so well, in fact, that new aircraft are still being built. The

four-engine turboprop Bear is similar in age and design to the US B-52 bomber. Its original mission was to deliver a long-range strategic strike by carrying free-fall nuclear bombs. Whatever this aircraft is asked to do, its great strengths are its large payload and tremendous range. The Bear D version carries a large sensor suite and equipment for targeting long-range missiles launched by other platforms. Used alone or in pairs, the Bear D's presence could signal an imminent attack. Considering its usefulness, the Bear is a relatively inexpensive aircraft, costing about \$20 million.

#### Tu-142 Bear F

The Bear F is the ASW variant of the elderly but successful Bear series. It is sufficiently modified from the original aircraft that it has a different model number. This aircraft combines long range and a large payload with typically poor Soviet ASW sensors and torpedoes. These aircraft patrol far out to sea, where they cannot be attacked by enemy land-based fighters or SAMs. The closest US equivalent is the P-3 Orion, but a closer one might be a B-52 fitted out for ASW missions.



#### IL-76 Candid Tanker

Technically the IL-78 Candid (called the "Midas"), this tanker version of the IL-76 Candid transport is a great leap forward for the Soviet tactical air forces. Previously, the only aerial refueling was of large, bomber-type aircraft by obsolete Badger A tankers which had been converted from their previous role. This dedicated tanker craft lets the new generation of fighters and attack planes refuel in flight, extending their range and effectiveness. The Midas is equivalent to the US KC-135 or the British Victortanker (both also based on converted transport planes). The Soviets have only a few of these valuable aircraft, so they will be careful to keep them out of harm's way.

## Modern Naval Tactics

Throughout history, naval tactics have centered on two problems—finding the enemy and sinking him—with the first one necessarily preceding the second. At the Battle of Midway in World War II, the Japanese held a clear preponderance of force (with four attack carriers and several battleships versus three US attack carriers backed by a few light cruisers), but the fact that the US forces found the Japanese first enabled them to bring tremendous killing power to bear first and win the battle.

Although the weapons used today are considerably different, the basic problems remain the same. A fleet commander must first find the enemy and then sink him. Although the greater range of surface to surface missiles enables him to attack at very long range, ship-mounted sensors cannot detect and identify a target at anywhere near the same distance. This means that a ship must either close to effective sensor range or rely on some other sensor to detect the enemy and direct the fire.

When another sensor is used to detect a target over the horizon from the firing ship, it is called OTH (over the horizon) tracking. When a sensor is used for OTH tracking, it is usually mounted on an aircraft. As a result, maritime patrol aircraft have become tremendously important assets in naval combat, despite their own modest armament. It is usually only by use of aerial tracking that a ship is able to use its long-range cruise missiles to maximum effect.

The obvious counter to patrol aircraft is air defense weaponry, although most patrol aircraft have good enough radars to stand off out of SAM range and still relay good target information to an attacking task force. In that case, the best way of dealing with patrol aircraft is to send out fighter interceptors. Given the limited range of most interceptors, however, a long-range patrol aircraft operating well out to sea is fairly safe from this threat. That's where the carriers come in.

Carriers are in a position to launch fighters that can shoot down a patrol aircraft once it is detected. Since the patrol aircraft may be able to detect a task force and direct a missile attack against it before fighters can be launched from the deck, task forces like to keep a combat air patrol aloft at all times to quickly attack any snoop aircraft in the area. This can be done either by frequent rotation of aircraft or by the use of aerial tankers.

Of course the other function served by carriers is that of mobile airbase for strike aircraft. The ordnance carried by a carrier's embarked air group is staggering, as you will learn playing the game. It is easily sufficient to overwhelm all but the largest and best-protected surface task force.

The key word here, of course, is "surface." While it is comparatively easy to outfit aircraft with air to surface mis-

siles, ASW aircraft are more specialized, more expensive, and naturally less common. Furthermore, the sensors used to detect aerial and surface targets are not particularly useful against submarines. Specialized sensors are required, as well as an entirely different array of weapons, all of which tend to be of considerably shorter effective range than similar systems used against surface targets. As a result, submarines can close to much shorter range with the enemy in comparative safety.

The tremendous threat posed by submarines to surface ships is reflected in the number of ships which carry ASW helicopters (reflected in the game in the sonar and ASW ratings of ships). Specialized ASW ships escort larger warships and attempt to detect and sink attack submarines before they can penetrate to the center of a task force.

As a result of all of this, modern naval tactics now resemble an elaborate, high-tech game of *Rock, Paper, Scissors*. Each asset plays a unique role in an elaborate combination of detection and attack in three different environments: air, surface, and suboceanic.

