

SAS: SPEE

Demo Scenario for the WWII Naval Rules SUPREMACY AT SEA



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Originally entitled *Action Stations!* But, someone else has published a set of naval rules under the same name. To avoid confusion we changed the name to “Supremacy at Sea”.

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and having the kindness to share them with us.

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Brian Holmes

And everyone else who made playing these rules fun.

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This has been a labor of love. Great care has been taken to ensure that no errors were made, however we are not perfect. If you find an error or just have a question to ask feel free to write us at the address above or check out our web site at www.ghenterprises.ca. We will do our best to answer your questions and take your comments into account for the next edition.

Please see www.supremacyatsea.com for online errata and FAQ.

Photos courteous of Naval History & Heritage Command (www.history.navy.mil)

Cover: Battle of the River Plate, 13 December 1939

Watercolor by Edward Tufnell, RN (Retired), depicting the cruisers HMS Exeter (foreground) and HMNZS Achilles (right center background) in action with the German armored ship Admiral Graf Spee (right background).

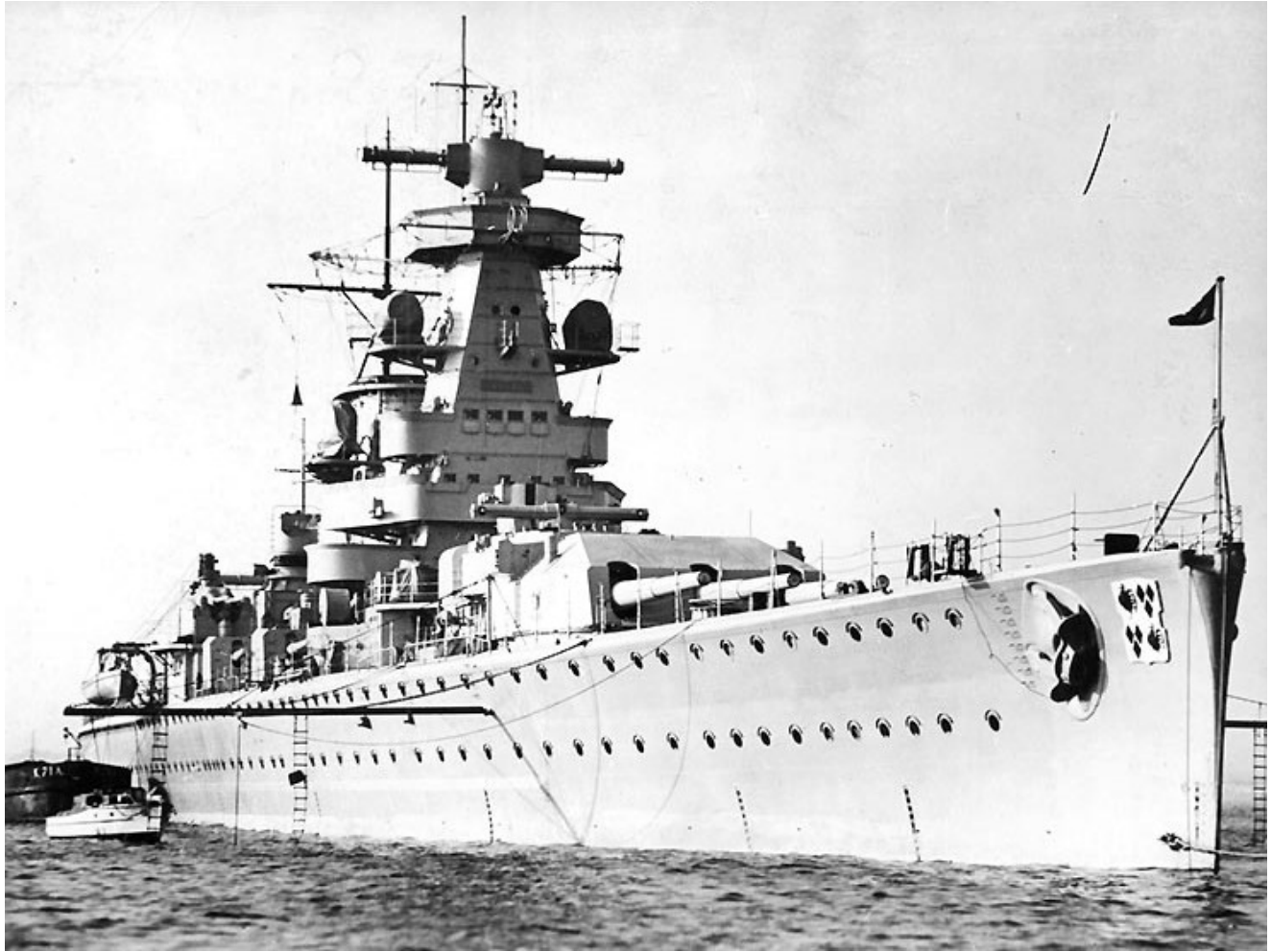
In memory of Roy Hamlin and George Benard
May this list grow slowly

Not for Resale

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Admiral Graf Spee

Moored in harbor, circa 1936-1937.
 Note the coat of arms mounted on her bow.

A. INTRODUCTION

1. Background

“Supremacy at Sea” is the World War II naval rules designed by the University of British Columbia Sunday Night Crew. They can be used for either quick scratch battles, or as part of a larger campaign. They are best suited to be used with 1/2400 scale models, but can be used with anything from 1/1200 to 1/4800 scale models.

2. Game Scales

2.1 Ground scale

“Supremacy at Sea” can be used with several ground scales. The standard 1:12000 ground scale uses inches to measure distances. Six inches on the table top is approximately one nautical mile. The small scale, 1:30000 uses centimeters to measure distances. With this scale six centimeters is approximately one nautical mile. When specifying table top distances, we will use ‘”/cm’ as a reminder to use inches for the standard ground scale and centimeters for the small ground scale.

2.2 Time scale

Each game turn represents 5 minutes of real time. Although movement and firing occur during different phases of a game turn, they are considered to occur during the whole 5 minutes of real time. Each gun fires only once (rolls a die) during a turn, however it may represent firing more than one round in real time.

The movement rate of a ship is given in knots. For the 1:12000 ground scale 2 knots of speed is equivalent to 1 inch of movement on the table top. For the 1:30000 scale 2 knots of speed is equivalent to 1 centimeter.

2.3 Model scale

It is possible to use any scale ship from 1/1200 to 1/4800, however we recommend using 1/2400 models with the 1:12000 ground scale and 1/4800 models with the 1:30000 ground scale. Using any other combination will require an additional modifier when calculating possible torpedo hits (see torpedo section).

3. Playing Requirements

3.1 Playing area

When using the ‘1:30000’ ground scale your kitchen table will suffice for a playing surface. The ‘1:12000’ ground scale will require a ping pong table or possibly the floor. The horizon is typically 12 nautical miles (72 inches or centimeters depending on ground scale), add to this the size of your formations and this will give you an idea of the amount of space you will need.

3.2 Playing time

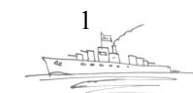
A small battle (3-4 players a side) can be fought to a conclusion in three to four hours. If you want it to reach a conclusion before the day is finished, larger battles should start around noon.

3.3 Player aids

Players will require dice (6 sided and decimal dice), tape measures (8 feet is long enough, 6 feet will suffice for most battles. One per player is the best.), writing implements, chalk for laying smoke, and masking tape for taping torpedo cards down.

Players will also require game-specific accessories, such as hit sheets, turning circles and ship rosters. Each player should have a hit sheet and turning circle, and sufficient ship rosters for all ships being commanded. A sample turning circle is provided at the back of the rules. This can be copied, then glued onto cardboard and cut out.

The ship rosters at the back of the rules can be copied as well. One or more of them will be required for each player for each battle.



You may copy the ones at the back of the rules or make your own. There is one torpedo damage sheet included in the rules. This should be sufficient for most battles. There should be at least one hit sheet per side of the battle. This set of rules has one sheet included. See our web site about purchasing addition player aids.

4. **Playing Conventions**

There are a number of conventions used in playing these rules. It is important to observe these conventions to speed game play and ensure a realistic result to battles.

4.1 **Measurement**

Due to the difference in ship scale and ground scale, the front funnel of the ship model is used as the point from which all measurements are made. The front funnel is also the part of the ship model that must be in a torpedo spread, before calculating to determine the percentage chance of a hit.

The only exceptions to this rule are:

- Blocking fire; any part of a ship model can block fire.
- Rams; if any part of the ship model touches a part of a friendly ship, a collision has occurred.

When a measurement is very close to any important value (for example, being just in or out of a specific range, or being just over or just under the range for blocking fire), use the 1 inch mark on the tape and add an extra inch to the measurement.

4.2 **Communication**

Communication between players on a side is done in the open. It must be done loudly enough for the other side to hear. All nations are assumed to be able to intercept each other's radio messages. You are permitted to have a secret planning session before the battle starts, but once the battle has begun there will be no secret communication between players.

4.3 **Open rosters**

The ship rosters of each side's ships are relatively open. You are permitted to ask about a ship's general damage total, what its possible top speed is, about how much ammo it has used, turrets left, torpedo banks left, and possible special damage it has. You may not ask whether torpedo banks are loaded or fired. You do not get to know the results of secret die rolls (Die - 2 specials etc).

4.4 **Invalid orders**

Occasionally, it will be found that the orders written and executed (either for fire or movement) were invalid. When this happens, the general rule is to undo whatever was done, and if necessary redo that part of the turn. For example, ships that moved too far are moved back to the correct position, ships that fired better than possible (i.e. too many guns fired, or not all firing deductions were applied) should have their fire redone.

When redoing moves, no changes are allowed to what was written. This cannot be used as an opportunity to make a different move or fire at a different target. The move that was written must be adjusted to meet the rules.

5. **Starting a Game**

The battle scenario should have been designed beforehand, either by the referee if it is a campaign battle or by one of the players. The ship roster sheets should be filled out for all ships. The terrain (if any) should be marked on the playing surface. All players should be informed of the visibility, weather and any special rules that apply to this game. Players on each side should be told (separately) of their special rules and victory conditions. The ships should be placed in their starting positions (dummy models may be used if some ships start out of visibility). Initial moves should be written. In the case of a night battle, you should write 3 moves in advance until ships move into contact.

6. **Sequence of Play**

Each turn has four major phases. Phases 1 (movement), and 2 (firing) are divided into sub-phases to write orders and execute orders. In each phase, all activities are either carried out simultaneously, or the results of actions carried out sequentially are applied simultaneously. The actions that are carried out immediately are explained in the rules.

6.1 Phase 1A: Write move orders.

Write movement orders for all ships under your command.

6.2 Phase 1B: Execute move orders.

Moves for ships and torpedoes are now executed simultaneously. Ships that are sunk by torpedoes are removed from play immediately. Speed damage and special damage caused by torpedo hits is applied immediately and affects the following fire phase. Smoke is laid as ships move. Potential rams are resolved as they occur.

6.3 Phase 2A: Write and execute searchlight orders

If you are fighting a night battle using the advanced night rules, there is a searchlight phase before you write fire orders. You will need to purchase the full set of rules for more details.

6.4 Phase 2B: Write firing orders.

Write fire orders for all ships under your command.

6.5 Phase 2C: Execute firing orders.

Fire orders for all ships firing are executed simultaneously. One side will fire first and then the other side will reply. All damage caused is applied at the conclusion of all firing.

6.6 Phase 2D: Apply damage.

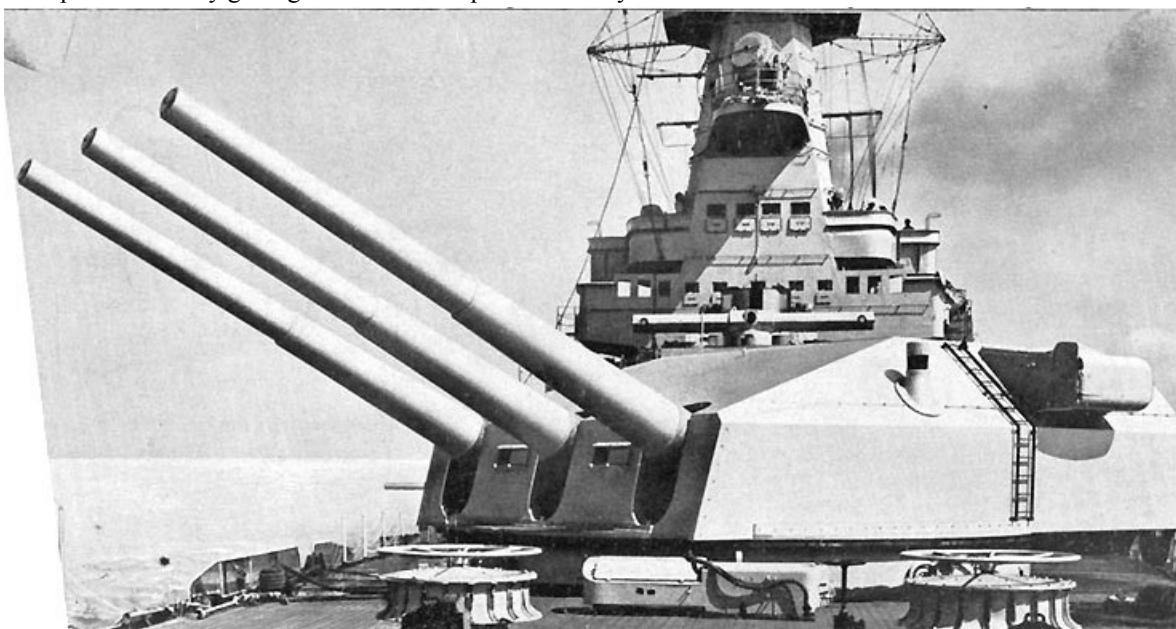
After all firing by all ships has concluded, apply all regular damage points and special damage. Ships which have reached or exceeded their total damage points are removed.

6.7 Phase 3: Lay torpedoes.

Those ships with torpedoes may fire them at eligible targets.

6.8 Phase 4: Remove smoke/cleanup.

Smoke laid during the move phase of the turn is removed. Ships that are possible targets for torpedoes should have their starting positions marked. Damage on ships should be totaled and sunk ships removed from play. Ammunition usage should be updated and any garbage on the table top cleared away for the next turn



Admiral Graf Spee
The ship's forward 28cm/52 (eleven-inch) triple gun turret, taken circa 1939

B. DETAILED DESCRIPTION of PHASES

1. Phase 1A: Write Moves

Write moves for each ship under your command. These moves include turns, straight movement, chasing splash or laying smoke. The moves should be written so that anybody reading it can move your ship.

1.1 Move distance

With the standard ground scale, your ship will move $\frac{1}{2}$ inch per knot of speed. With the small ground scale, your ship will move $\frac{1}{2}$ centimeter per knot of speed. For example: A ship moving at 25 knots would move either 12 $\frac{1}{2}$ inches per turn or 12 $\frac{1}{2}$ centimeters per turn. Moves are written in a minimum of $\frac{1}{4}$ inch or $\frac{1}{2}$ centimeter increments, depending on the scale used.

1.2 Move notation

It is suggested that you use the following abbreviations for your movement. The quotation marks are being used to highlight the notation. Do not use the quotation marks when writing your turn.

a) Turns

Turns are a minimum of $\frac{1}{4}$ inch or $\frac{1}{2}$ centimeter, depending on the ground scale being used, and a maximum of your total move distance.

'L' (left) or 'P' (port) followed by a number of inches for that left turn. This would be a continuous turn with no interruptions or other changes of direction.

'R' (right) or 'S' (starboard) followed by a number of inches for that right turn.

'Sh' (sharp) after either of the above specifies that you are using the sharp turning circle. This circle is only usable by certain smaller ships. See the Ship Stat sheets.

b) Straight Movement

A number with either an 'A' (ahead) or no abbreviation in front of it is a move straight ahead.

'B' (back) followed by a number of inches notes that you are moving backwards.

c) Special Moves

'CS' (Chasing Splash) may be combined with any of the above.

'LS' (Lay Smoke) may be combined with any of the above except CS. See section B.2.11 on laying smoke).

1.3 Types of movement

a) Regular Movement

Regular movement includes turns and straight movement.

b) Turns Restrictions Due to Damage

If you have no rudder (lost to special damage) you normally can not turn. If your rudder is jammed hard over due to special damage, you must turn. Both these conditions may be avoided if the ship slows to 10 knots or less. At this speed you can maneuver freely by differential engine steering. You are allowed to turn if you have no rudder and you are allowed to go straight if you have a jammed rudder.

c) Chasing Splash

Chasing splash is a special form of movement used to reduce the chance of being hit by enemy gunfire. It is available to any ship with a working rudder, capable of doing 25 knots or more, and which is at least 6"/cm away from any friendly ships. This maneuver will take 3"/cm off your movement distance for the turn in which you are chasing splash. It does not reduce your speed for all other purposes, such as gunfire modifications or running aground.



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When you are chasing splash or attempting to chase splash, you may not fire your guns. You may fire torpedoes, but you must use a fan spread. You may not lay smoke while chasing splash or attempting to chase splash. Chasing splash is considered to occur during the entire turn.

If a ship which is attempting to chase splash comes within 6"/cm of a friendly live ship at the end of the movement phase, it is not considered to have been successful at chasing splash. This includes distance to ships that are also chasing splash or ships on the other side of smoke. The ship that was attempting to chase splash, but ended up too close to a friendly ship, does not get the 3"/cm of movement back. If suffers all disadvantages of chasing splash but does not get the protection from fire.

d) Backwards Movement

Backwards movement is special. It is usually only used to get off of a mud bank when you have run aground, but it may be used at any time. Backwards movement may not be combined with forward movement in a turn. You must come to a dead stop in the turn before you intend to move backwards. Then, next turn you may move backwards. The same applies when you want to move forwards again. You must come to a dead stop the turn before you wish to resume forward movement. You may only move up to half speed backwards and your acceleration is halved. For US CV it is 3/4 speed and 3/4 acceleration.

e) Acceleration and Deceleration

Acceleration is not normally noted in your move. BB/BC/MM and others may accelerate 6 Knots a turn. CA/CL/CV may accelerate 8 Knots a turn. DD's may accelerate 10 Knots a turn. This is listed on the fire sheet.

Deceleration is not normally noted in your move. All ships may decelerate by half their original maximum speed in one turn. Example - if you could originally do 36 Knots, you may decelerate by 18 Knots in a turn. This does not include speed lost due to special damage or torpedo hits.

If you spent part of the turn 'On Course' (special damage), your acceleration/deceleration is reduced proportionally.

2. Phase 1B: Execute Moves

2.1 Simultaneous movement

Movement for all ships and all live torpedo spreads is done simultaneously during this phase. Ships that have run aground make their roll to get off during this phase and if they are successful they may execute the move they wrote. Ships whose moves intersect may possibly ram. See section 2.8 Ramming.

2.2 Torpedo hits

As torpedoes and ships move simultaneously, it is a complex process to determine when to check for torpedo hits. Details on how to do this are in the complete rules.

2.8 Ramming – Movement

A ram is deemed to occur when two ship models actually contact during movement. In true scale the ships are much smaller than their models (1:2400 models and inches) and probably missed each other. However this definition of a collision avoids models being stacked on top of each other. Because of this scale difference what would have worked in reality may not work on the tabletop.

Enemy ships are not allowed to ram each other. With the exception of sub chasers and subs, only one example of enemy ships ramming occurred during World War 2 (HMS Glowworm and KM Hipper). Friendly ships, however did not fare as well suffering numerous collisions and therefore will be allowed to ram, but will be given a chance to avoid a collision.

In order to reduce the possibility of a collision next turn, ships cannot end their turn, within six inches of another ship, on a collision course with that ship. In other words, if the two ships were to move straight ahead, at their current speed, would they collide? If the answer is yes, then one or both of the ships must adjust their moves.

a) Right of Way

A ship with no rudder and no ability to maneuver (on course) has the right of way over all other ships. Next in priority, regardless of ship size is a ship avoiding a real torpedo threat. Third in line is a ship with a damaged rudder (e.g.: Rudder

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Damaged, Max Maneuver 1 inch). It must use whatever maneuver ability it has to yield to other ships with right of way over it, including large ships. Lastly, larger ships (by ship class type, CA, CL etc) have the right of way over smaller ships.

Ships which do not have the right of way will perform a Mandatory Collision Avoidance maneuver to avoid a ram this or next turn.

b) When there is no right of way

When neither ship has the right of way, both ships are moved back along their path to a point where they are six inches apart. both players write secret moves, 1"/cm at a time (if one ship is moving faster than the other, then it may have to be 1"/cm for one ship and a fraction of an inch for the other ship) and then execute them. If friendly ships collide during this process, use the next section to determine their damage. If enemy ships collide, randomly determine who has the right of way. The ship without the right of way will do a Mandatory Collision Avoidance Maneuver while the ship with the right of way will continue straight ahead.

c) Mandatory Collision Avoidance

A ship without the right of way must perform a Mandatory Collision Avoidance maneuver to avoid a ram this turn or a potential one next turn. The ship with the right of way is left at the point of collision or at the end of its move, while the ship changing its move is moved back along its path, to a point six inches away from the other ship. The point of collision is where the two ships first touch.

This ship must then adjust its course with the smallest possible turn to end parallel to the current position of the other ship. The rest of its move is straight ahead.

Repeat this process as often as needed to resolve all possible collisions in order of occurrence. Note, that avoiding one collision could cause another possible collision which would need resolving.

d) Subs

If a sub is involved in a potential collision, neither ship is considered to have the right of way. Perform 1"/cm moves as outlined in section 2.8.3. Resolve any collisions that might occur as per section 2.9.

2.9 Ramming – Effects

If two ships ram they both suffer damage from it. The ship that is ramming (contacting by the bow) takes a bow torpedo hit. The ship being rammed takes a torpedo hit wherever it was rammed (bow, mid-ships or stern). If the speed differential between the two ships on their respective courses is less than 10 knots, it is a +1 torpedo hit. If it is 10 knots or more but less than 20 knots, it is a regular torpedo hit. If it is 20 knots or more but less than 30 knots, it is a -1 torpedo hit. If it is 30 Knots or more, it is a -2 torpedo hit.

Destroyers inflict 400 point hits, cruisers inflict 600 point hits and Battleships/Battle Cruisers inflict 1000 point hits. If the ship which is ramming sinks due to the ram damage, the ship being rammed only suffers half the applicable damage. If neither ship sinks due to this damage, they are both locked together, dead in the water. If one of the ships sinks, then the other may attempt to finish its move.

The following two tables summarize the above rules:

Speed Differential	Damage Roll Mod
< 10 knots	+1
< 20 knots	0
< 30 knots	-1
>= 30 knots	-2

Ship Size	Damage Points
BB/BC/CV	1000
CA, CL, CVL, CVE	600
DD	400

2.10 Running aground

Whenever there are islands or land in the area of battle, there are shoals around each area of land. When any part of a ship crosses a shoal line there is a chance of running aground. As this scenario has no land we won't say more.



2.11 Laying smoke

Smoke may be laid by any ship. Each ship has 3 turns of smoke. This may be used on any three turns, and need not be consecutive. A ship may not chase splash while it is laying smoke. Smoke is laid during the movement execution phase and is removed during Phase 4 – Remove Smoke/General Cleanup. Smoke blocks visual line of sight but radar may see through it.

Mark the smoke by drawing a chalk line on the tabletop, along the path on which the ship traveled. The smoke starts from the ships funnel at its start position and ends at the ships funnel, at its end position. The smoke pattern is continuous throughout this length. An alternative to using chalk to mark your line of smoke is to use ¼” painter’s masking tape.

A line of sight is considered blocked if it crosses any part of the smoke (chalk or tape).

3. Phase 2A: Searchlights

If playing with the advanced night rules, searchlight activity occurs at this time. This scenario will not require searchlights.

4. Phase 2B: Write Firing Orders

All players now write orders for those ships in their command that are eligible to fire and they have chosen to have fire.

4.1 Suggested Format for Firing Orders

Fire orders for each ship should be written so that any player could execute the orders. The orders should include the type of guns firing (‘MN’ - Mains, ‘SE’ - Secondaries or ‘TR’ - Tertiaries), which groups are firing (‘B’ - Bow group, ‘M’ – Mid-ships group, ‘S’ - Stern group, ‘Pt’ - Port or ‘Sb’ - Starboard groups) and the target by name (Florida) or type (close DD, 2nd CL in line). The exact format can vary as long as it can be understood by other players.

Fire orders must be written prior to the execution of any fire, otherwise the ship does not fire.

4.2 Eligibility to Fire

Ships are normally able to fire, unless certain specific conditions occur. These include:

- Special damage causing guns to be silent;
- Running out of ammunition for the turret group or group of guns;
- No visible enemy ships;
- Chasing splash (ships chasing splash or attempting to chase splash may not fire guns);
- Running aground;
- Friendly ships within 6”/cm (measured funnel to funnel), in which case no line of fire can cross any part of the blocking ship; or
- Movement which leaves no working guns with ammunition able to bear on a visible enemy.

If special damage causes main guns to be silent, working secondaries or tertiaries (if the ship has them) may still be fired. For the purposes of the fire table, the basic number of guns firing is the number of guns actually working and bearing on the enemy. If turrets have been knocked out by special damage in previous turns their guns are no longer counted. Similarly, if turrets are out of ammunition they are not counted.

4.3 Visibility

At the end on the movement phase determine which enemy ships are visible before writing fire orders. Visibility is based solely on the position of the ships at the end of the movement execution phase. It does not matter whether a ship was visible for most of the movement phase, if it moved out of sight even in the last 0.1”/cm of its movement, then it may not be taken under fire.

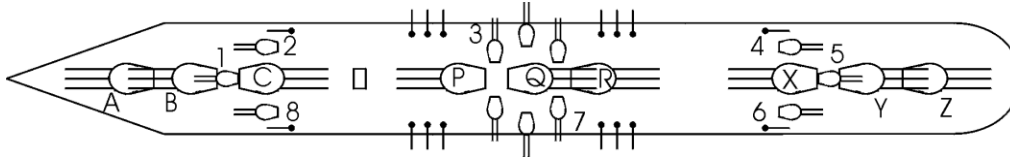
Conversely, if a ship was out of sight for 99% of the movement phase and just moved into sight at the end of the movement phase, it may be taken under fire.

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The target ship must be within the maximum visibility defined for the scenario. If the visibility is 80"/cm and the target is at 81"/cm it is out of sight and may not be taken under fire. Ships with Radar may ignore this restriction - see later section on Radar. There must be a clear line of sight to the target. Smoke blocks line of sight. Land blocks line of sight, unless it is defined in the scenario as being low enough to fire over. Ships (friendly or enemy) within 6"/cm of the firing ship (measured front funnel to front funnel) block line of sight if any part of the ship model is in the line of sight. Ships more than 6"/cm away do not block line of sight.

4.4 Arcs of Fire and Turret Locations

Turrets and gun mounts have arcs of fire that depend on where they are mounted on a ship.



A, B, C, P, Q, R, W, X, Y are main turrets
Positions 1 thru 8 contain turrets and single guns for secondary and tertiary armament.
Not all positions are used on all ships.

a) Mains

Bow centerline turrets usually have an arc of fire of 300 degrees. From the bow, this consists of 150 degrees to either side. Bow turrets have a dead zone towards the rear of the ship consisting of 30 degrees each side of the centerline. Most ships have an A and B turret at the bow, with B turret super firing over A. In this case both turrets have the full 300 degree arc. Some ships have three turrets, A, B and C, each on its own level, with B super firing over A and C super firing over B. In this case, all these turrets have the full arc.

Several ships have A, B and C turrets with two of them on the same level. One of these turrets will not have the full arc of fire. It will have a 60 degree dead zone to the bow as well as to the stern. It will have a 120 degree arc of fire to Port and the same size arc to Starboard.

Mid-ships turrets (turrets P, Q and R) come in two variations. In one case, they are centerline turrets. In this case they will have 120 degree arcs of fire to either side and 60 degree dead zones to the front and rear. In the second case the turrets are wing mounted, usually one on each side of the ship (P and Q). These turrets have a 120 degree arc of fire on the side on which they are mounted.

Stern turrets are the same as bow turrets except that their dead zone is at the bow.

b) Secondaries and tertiaries

Treat secondaries and tertiaries the same. The size of the gun determines if it is a secondary or tertiary gun, not its location.

The centerline positions 1 and 5 have full 300 degree arcs of fire if they are in super firing positions. If they are not super firing, then they have a 120 degree arc of fire to either side of the ship.

Positions 2, 4, 6 and 8 have 150 degree arcs of fire. Their arc of fire starts directly ahead (or astern) and then swings 150 degrees towards the other end of the ship. They may not fire at targets on the other side of the ship. Typically only one or two guns/turrets may be in this position, you should be able to determine this by looking at the ship model.

Positions 3 and 7 have 120 degree arcs of fire to the side they are on only. They may not fire directly to the front or rear of the ship.

4.5 Number of targets per ship

A ship may fire at several targets with its various groups of guns. The most accurate firing is controlled by directors, which are centralized spotting locations on the ship communicating with the central fire control. There are a limited number of directors, and they are dedicated to specific types of guns.

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Any turret or gun can fire without the assistance of a director. This firing will be more limited in range and less accurate. This is known as firing in local control.

a) Battleships

Battleships have two directors for their main guns. This allows them to fire at up to two targets with full range and accuracy, with each director controlling against one target ship. Battleship main guns may have two or three groups for fire purposes. If a battleship has three groups, the third group can be included in the director controlled firing along with one of the other groups, or can engage a third target in local control.

Most battleships have two groups, one Bow and one Stern, with bow and stern directors. Some battleships (French and UK) have all their main turrets at the bow. They are still treated as two groups for fire purposes and can engage two targets under director control. They may be treated as one group for damage purposes.

Some older battleships have a centre group of mains (e.g. Wyoming, New York, Bretagne, and Agincourt). They have three groups of mains for damage purposes. They may fire at two targets by adding the guns of the center group to either bow or stern groups. In this case, there will be no negative effect on their fire. If they wish to fire at a third target, that target will be engaged by guns in local control. Fire at that target is -3 levels and must be at medium or close range.

Some even older battleships have wing turrets. They are treated as a third group for damage purposes. The turrets may fire with the bow or stern group. They may pick up a third target, but fire at that target is under local control and will be -3 levels and must be at medium and close range.

Secondaries have two directors, one on each side of the ship. These directors have 180 degree arcs. They control fire at one target each. One additional target on each side may be engaged, but this fire is under local control and will be -3 levels and must be at close range.

Tertiaries are the same as secondaries except that they may not fire at more than 1 target a side.

b) Battle Cruisers, Heavy and Light Cruisers

Battle Cruisers and Cruisers are the same as Battleships. They have (usually) two groups of mains with one director for each group. They have two groups of secondaries (Port and Starboard) with one director for each group and in some cases two groups of tertiaries with one director for each one. They fire the same as battleships with regard to extra targets.

c) Destroyers and Small Warships

Destroyers have one or two fire directors. One is for the bow group (if there is a bow group) and one is for the stern group (if there is a stern group). Some destroyers have a single gun (or guns) between the funnels of the ship, or between the torpedo banks (e.g. British and Italian DD's). This is treated as a third group for damage purposes but must be fired with either the bow or stern group. It may not be fired at a third target. Other ships such as Destroyer Escorts, mine layers etc., follow the destroyer pattern.

d) Merchantmen

Merchantmen have no fire control directors. All their fire is considered local control and is -3 levels. They may fire guns singly at different targets or group them together on one target.

4.6 Trading targets

As all directors communicate with central fire control, groups of main guns firing under director control may trade targets or concentrate on a single target already under director-controlled fire without suffering the penalty for initial acquisition and ranging on a target. Centerline secondaries firing under director control may switch their fire to either side of the ship to engage another target already under director-controlled fire without suffering any penalties for engaging a new target.

4.7 Blocked turrets

If a Turret in a group cannot fire at the same target that the rest of the group is firing at, it may not fire. A Turret Group must always fire at the same target.

4.8 Coordinating fire

Fire cannot be coordinated among players on one side, unless specific communication rules are in place for the scenario. It is acceptable to note the targets fired at during the turn for reference on the following turn. It is also permitted to ask which ships engaged a target on the previous turn.

4.9 Blocked by friendly ships

If a friendly ship is within 6"/cm (1 nautical mile), measured front funnel to front funnel, and the line of fire to a target ship passes over any portion of this ship, the target ship cannot be engaged due to the friendly ship blocking fire. It is permissible to measure the distance to friendly ships while writing the fire orders to determine which ships are blocking the line of fire. Measuring more than a nautical mile from the firing ship is not allowed.

4.10 General considerations

It is the player's responsibility to make the decisions about firing. Some information, such as range and target speed, will not be known accurately. Factors affecting own fire, such as turning and special damage, will be known. It is up to the player to assess when writing fire orders whether the fire is possible and/or effective. If it turns out no hit is possible when the fire is conducted, the ammunition is still considered expended.

5. Phase 2C: Execute Fire

Fire is considered to occur simultaneously. To reduce confusion and noise, the actual measurement, dice rolling and calculation of damage results should be conducted one side at a time. The damage caused by this fire does not have any effect on this turns fire. All damage is assumed to take effect after both sides have finished their firing.

5.1 Factors affecting fire accuracy

The accuracy of fire is affected by many different factors. Excessive maneuvering by the firing ship can reduce accuracy. High speed or chasing splash by the target also has the same effect. Too many ships firing at the same target makes it difficult to correct the range, and thereby also reduces accuracy. Special damage affecting fire control and directors on the firing ship can have a significant negative effect. The size of the target may increase or decrease the number of hits.

5.2 Using the fire table

Accuracy changes are implemented in two ways on the Fire Table. One method is through column shifts to the right or left after the correct column and row based on the type of guns, range and number of guns is determined. Another type of accuracy factor is called Half Salvo. In this case, after determining the range and type of gun firing, use half the actual number of guns in determining which row applies. Both methods may be used in the same calculation of number of gunfire hits.

Minus column shifts (-2 etc.) are reductions to the accuracy of fire. After determining the correct row and column on the hit chart, the actual result is selected by choosing a position the appropriate number of columns to the right. This may also be called "Down Levels".

Plus column shifts (+1 etc.) are improvements to the accuracy of fire. After determining the correct row and column on the hit chart, the actual result is selected by choosing a position the appropriate number of columns to the left. This may also be called "Up Levels".

Half Salvo modifier reduces the number of guns being firing. If the ship was eligible to fire 8 guns and a Half Salvo modifier applied, on the Hit Chart the row for 4 guns would be used instead of the row for 8 guns. Normal rounding is applied, so for example, 9 guns is rounded to 5 guns. If Half Salvo modifiers have the effect of producing a result of 1/2 gun, it is fired as 1 gun. If Half Salvo modifiers have the cumulative effect of reducing fire to 1/4 gun, no fire is carried out, although the appropriate ammunition expenditure occurs. For example, firing 1 gun, with Half Salvo for First Fire, and Half Salvo for a turn over 4"/cm is 1/4 gun.

5.3 Effect of movement on accuracy of fire

a) Target movement

If the target was chasing splash during the movement phase, fire at it is -3 columns. If the target attempted to chase splash but for any reason was not able to successfully do so, there is no -3 column modifier.

Supremacy at Sea

If the target was going slower than 25 knots, fire at it is better.

Target Speed	Effect on Fire
< 25 Kts	+ 1 Column
< 15 Kts	+ 3 Columns
< 5 Kts	+ 5 Columns

The effects of slow target speed are not cumulative. The best modifier in the table applies.

b) Firing Ship Movement

The movement written and carried out for the ship conducting the firing may affect the accuracy of that ship's fire. The factor that affects fire accuracy is the total amount of turning carried out during the move. It does not matter whether this turning is carried out in a single segment of the move, or in several individual turn segments separated by straight movement. The firing accuracy is affected by the total amount of turning as follows:

Total amount of turning	Effect on Fire
More than 2 inches	- 2 Columns
More than 3 inches	- 3 Columns
More than 4 inches	- 3 Columns plus fire only a half salvo (i.e. 9 guns fires as 5)

The effects of turning are not cumulative. The worst modifier applicable in the table is used.

5.4 Other factors affecting accuracy of fire

a) First Fire (Locking On)

If the firing ship has not engaged the target ship on the immediately previous turn, there is a reduction in the accuracy of fire due to the requirement to determine the range and adjust the fall of shot to straddle the target ship. This is called "first fire" or "locking on". It applies separately to each caliber of gun on the firing ship.

Once a firing ship has spent one turn "locking on" and suffered the resulting "first fire" reduction in accuracy for that turn, if it continues to fire at the same target ship, with the same caliber of guns, it is considered "locked on" for the second and subsequent turns of fire and does not suffer any "first fire" reduction. If it fails to fire at that target ship for one or more turns, it must go through the first fire reduction again to be considered locked on.

Even if one caliber of guns on the firing ship is locked on, a different caliber of guns will suffer the first fire reduction when engaging the target ship. For example, being locked on with main guns will not eliminate the reduction for first fire if the secondary guns from the firing ship take the target ship under fire. However if a group of mains lock onto a target one turn, the other main guns may fire at the same target next turn with out suffering locking on penalty.

The reduction in accuracy due to first fire is dependent on the range to the target ship, according to the following table:

Range to Target Ship	Effect on Fire
Close Range (left side of table)	- 3 Columns
Medium or Long Range	Half Salvo (i.e. 4 guns fires as 2)

b) Over designation of fire on 1 ship

If multiple ships, or multiple calibers of guns, fire at the same ship it becomes difficult to determine the fall of shot and therefore fire becomes less accurate. The first time a target ship is taken under fire during a turn, the player conducting the firing must ask other players on the same side whether any other ships are engaging that target. At this time, the total number of gun batteries engaging the target is determined, and the appropriate modifier calculated. This modifier applies to all gun batteries engaging the same target.

Supremacy at Sea

A gun battery is considered to be one caliber of guns from a single ship. If a ship fires both main and secondary guns at the same target, that counts as 2 batteries. Even if only a portion of the guns of a single caliber are fired at the target ship (i.e. only forward mains or only port secondaries), that still counts as one battery.

After counting up the total number of batteries firing at the target ship, subtract one and that is the number of columns adjustment to be subtracted from the fire.

Examples:

If one ship fires both mains and secondaries at the same target this counts as two batteries, so fire for each of the batteries is -1 column.

If one ship fires both mains and secondaries at one target, and two other ships fire mains at the same target, this counts as four batteries. Fire from each group of guns would then be -3 columns.

If a player fails to mention that one of his ships is engaging a target when this calculation is being done; the fire for each battery that was not mentioned is forfeited for the turn.

c) Non-Director Firing

As described in 4.5, on some occasions guns will be firing in local control, not director control. When firing in local control, a group of guns is -3 columns. In addition, targets may only be engaged at close and medium range on the Hit Table. This may also occur due to Special Damage knocking out all available directors.

d) Special Damage to Firing Ship

Special Damage received by the firing ship in previous turns may affect the accuracy of fire. If the special damage indicated that the ship's fire would be reduced by a specified number of columns for a specified number of turns, this reduction should be applied in addition to all other reductions or improvements calculated in this section. Such Special Damage fire reductions will be specific to mains or secondaries.

e) Size of Target

The size of the target ship may affect the chance of obtaining a hit. There is a size modifier column on the ship statistics chart, which is the most accurate source of information for this modifier. Generally, the following applies (subject to the actual modifier for a ship in the chart:

Ship Type	Modifier
Battleships, Battle Cruisers, certain very large Heavy Cruisers	+1 Column
Cruisers (except for very large and very small cruisers)	No shift
Small light cruisers and destroyers	-1 Column
Corvettes, minesweepers, landing craft, MTB's, MGB's, etc	-2 to -6 Columns

f) Destroyers and Smaller Ships

Destroyers and smaller ships make less stable gun platforms. Therefore, all fire by any guns on destroyers or smaller ships is -1 Column.

g) National and Specific Ship Characteristics

Gun crews of different navies, or different ships in the same navy, would achieve different levels of gunnery skill. This can be simulated by assigning plus or minus column shifts according to the specific scenario. This is also included in the Ship Statistics Chart for particularly well-documented cases.

h) Advanced Rules affecting Fire Accuracy

Firing accuracy may be affected if the following advanced rules (see Section C) are used:

- Radar
- Weather

5.5 Night combat

Section C provides the detailed rules for night combat. In that section, it describes which regular rules apply for night combat, and which additional rules apply.

5.6 Conducting fire resolution

When it is the turn of one side to conduct fire resolution, each player will announce, in turn, which ships and which batteries are firing, and which ship is the target of each battery. Opposing players should note how many batteries are firing at each of their ships, so the correct over-designation deduction is made.

Each player on a side should then conduct fire resolution in sequence, so that all players can watch the process for information or to identify errors. For each battery firing at a target ship, follow the five step sequence below.

a) Step 1 – Measure Range to Target

After announcing which battery is firing at which target ship, measure the range from the firing ship to the target ship. This is measured front funnel to front funnel. If the range falls between two of the range measurements for the appropriate type of gun, round up to the next highest range. For example, if the range is 42"/cm, and the firing gun has range measurements of 40"/cm and 45"/cm, use the 45"/cm measurement and column for fire resolution. Remember to use inches for the 1:12000 ground scale and centimeters for the 1:30000 ground scale.

b) Step 2 – Calculate the appropriate row and column on the Hit Chart

After finding the base column which depends on the type of gun and range, determine the correct row in the Hit Table based on the number of guns firing, and whether there are deductions for Half Salvo. Note that there can be multiple Half Salvo deductions.

After determining the correct row, calculate all plus and minus column shifts that apply for this instance of fire. Note that all such modifiers are cumulative. If the final result of all such modifiers leaves the column off the right side of the table (i.e. to the right of any numerals in the table), then no hit is possible. This fire does use the appropriate amount of ammunition, even though there was no chance of hitting.

c) Step 3 – Roll a Die to Determine Number of Hits

If it is possible to get a hit (the final column after all modifications shows a numeral, even it is a 0, then a six-sided die is rolled to add a random factor and determine the actual number of hits for that round of fire, and whether any of the hits do Special Damage to the target.

The die roll adds a final column shift to the fire, after which the number of hits in the column reached, is used to calculate the damage to the target. The effect of the die roll is as follows:

Die Roll	Column Shift
1	+2 Columns
2	+1 Column
3,4	No shift in columns
5	-1 Column
6	-2 Columns

d) Step 4 – Determine Point Damage to Target

If a non-zero number of hits is obtained in Step 3, the basic point damage to the target will be determined in this step. If the target is an un-armored ship, like a destroyer or transport ship, refer to Section B.6.8 – Damage to Un-armored Ships, for the procedure to determine damage. This section covers damage to armored ships (the Ship Statistics show values for belt, deck and turret amour).

First, refer back to the upper part of the table, to the base column which is the type of guns firing and the range to the target (rounded up to the next range measurement). In this position, there will be two numbers below the range. The number immediately below the range is the belt penetration in inches. The number below that, in italics, is the deck penetration in inches.

If the belt penetration number equals or exceeds the belt amour of the target ship, OR if the deck penetration number equals or exceeds the deck amour of the target ship, then the number of points of damage is calculated based upon the full point value of the type of gun times the number of hits. This is referred to as a “penetrating hit”.

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If the above is not the case, then if the belt penetration number is at least half the belt amour of the target ship, OR if the deck penetration number is at least half the deck amour of the target ship, then the point damage will be calculated as HALF the point value for the type of gun times the number of hits. This is referred to as a “half penetrating hit”.

If the belt penetration number is less than half the belt amour for the target ship, AND the deck penetration number is less than half the deck amour for the target ship, then no damage points are taken from this fire. This is referred to as a “non-half penetrating hit”.

e) Step 5 – Determine Special Damage Rolls

Most hits in a naval battle do a relatively small amount of damage. These hits are simulated by the point damage calculation in Step 4. A small number of hits will do significant damage, often to vital parts of the target ship. These critical hits are simulated by the Special Damage provisions.

In most of the Hit Table, if the number of hits obtained is greater than or equal to the final die roll that determined the number of hits, then a Special Damage roll can be made. For example, if a 3 is rolled, meaning no change in columns, and the column on which this final roll was made showed 3 as the base number of hits, and then a special damage roll is made. If a 4 had been rolled, even though the result in terms of number of hits would be the same, there would be no special damage roll.

In the lower portion of the Hit Table, there is a section in the upper right corner that is set off by dotted lines. This section is referred to as “the box”. In this section, the chances of hits are so low that a special additional process is used to determine whether a Special Damage hit has occurred. If the final column adjustment from the die roll is in the box, and is a 1 (indicating that a hit was made) then a second die roll is done to determine whether that hit was a special damage hit. On the roll of a 1, then a special damage roll will be made. If the result of the first die roll is a 0, then there is no chance of a special damage, although the firing will count as “locked on” for the subsequent turn.

If the number of hits in the final column result after the die roll is a 6, then a special damage roll is earned automatically. If the number of hits in the final column result after the die roll exceeds 6, then one special damage roll is earned automatically for each full multiple of 6 hits. An additional special damage roll may be possible. Continue to subtract 6 from the number of hits obtained until you have a number less than six. If the initial die roll is less than or equal to the remaining number an additional special damage roll is earned. For example, if the result after the initial die roll shows 11 hits, then there is one special damage roll automatically, and a second if, the initial to hit die roll, was a 5 or less.

The procedure for determining the damage from a special damage roll is described in the next section.

5.7 Special damage procedure

When a special damage roll is obtained, the following procedure is used to determine where the special damage hit occurs and what damage is done. This requires use of the Hit Table and the Special Damage table.

The special damage roll is done on the Special Damage chart. This roll consists of two six-sided dice. The first die (which should be a colored, i.e. non-white die) determines which portion of the ship is hit. The second die (which should be a white die) determines exactly what damage is done with that hit in that portion of the ship.

The top section of the Hit Table is divided, left to right, into 3 sections. These different sections are divided by double lines. At the top of the table, the left hand section is identified as “+1 Specials”, the centre section has no label, and the right hand section is identified as “-1 Specials”.

These labels refer to modifications made to the first (colored) die in the die roll for the Special Damage chart. At close ranges (the left hand column), there is no chance of hitting the deck. At long range (the right hand column) there is a considerably increased chance of hitting the deck. This is simulated by adjusting the first (colored) die to increase or decrease the chances of hitting certain portions of the ship.

The first step in carrying out a Special Damage roll is to determine the belt and deck amour penetration as given at the base column (range measurement rounded up) for the type of gun which is firing. This was described in the procedure for Fire Resolution.

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Determine whether this base column is in the +1 Specials, No Change, or -1 Specials section. Roll two six-sided dice (one colored and one white) and adjust the colored number according to the section in which the base column is found. The modified result of the colored die will give one of the following sections:

- Deck
- Belt
- Turret
- Belt + Deck

If the result is a Deck special, then determine whether the deck penetration figure for the type of gun and range is equal to or greater than the deck amour of the target ship. If so, the damage result will be that in the “Penetrating” column of the Special Damage chart. If the deck penetration figure for the type of gun and range is equal to at least half the deck amour of the target ship, but not equal to or greater than that amour figure, then the damage result will be that in the “Half Penetrating” column of the Special Damage chart. If the deck penetration figure for the type of gun and range is less than half the deck amour of the target ship, then no Special Damage is done.

If the result is a Belt special, then use the same procedure as above, but using the belt penetration number for the type of gun and range, compared to the Belt amour values for the target ship.

If the result is a Turret special, then use the same procedure as above, either the belt penetration number or the deck penetration number for the firing type of gun at the target range can be used, whichever provides the more effective result. If the result is a Belt + Deck special, then use the same procedure as above, but using the belt penetration number for the type of gun and range, compared to the sum of the Belt and Deck amour values for the target ship. This type of special represents hits that penetrate to the very vitals of the target ship, such as a magazine or engine room. Note that on a Belt + Deck special damage, even if the firing gun could penetrate or half penetrate either of the Belt or Deck amour individually, if it fails to half penetrate the sum of the two, no special damage is done.

After determining which row of the Special Damage table applies, and whether the Penetrating or Half Penetrating column applies, read off and apply the special damage in the resulting entry. This may involve some additional die rolls on the part of the owning player of the target ship to determine the effect of the special damage.

5.8 Damage to un-armored ships

This procedure is used to determine the damage done, based on the number of hits calculated in B.5.6, to un-armored ships such as destroyers and merchantmen. Details are available in the complete rules.

5.9 Overwhelming damage

If, on any one turn, a ship of any type takes damage from gun fire and torpedoes, totaling 75% of its original point value, it sinks. The damage is assumed to be too severe for the ship to take in one turn.

5.10 Ammunition usage

Each round of fire from a battery of guns uses ammunition. Ammunition is tracked by individual main turret, and by groups of secondaries and tertiaries. Ammunition may not be transferred from one main turret to another or from one group of secondaries or tertiaries to another.

Each turret or group of smaller guns has a certain number of full salvos of ammunition available. The exact number is recorded on the Ship Statistics Chart. Ammunition may be fired in full or half salvos. Certain situations, such as first fire when turning more than 4 inches, may result in firing only a quarter of a salvo. When a turret or group of guns runs out of ammunition, it may no longer fire.

Each player may choose to fire only a half salvo when a full salvo could be fired, but this must be marked as part of the firing instructions written in Phase 4A.

Under certain circumstances, the die roll for number of hits may result in no hits being obtained. In such a case the normal amount of ammunition for that situation is still expended.

5.11 Example combat situations

a) Example 1: Wichita vs. Hipper

The Hipper is locked on. The Wichita is firing for first time. Range 58"/cm.

The Hipper Fires first

8 x 8" guns at 60"/cm (rounding up) are expecting 2 hits. This is found by taking the 8" gun row, going out to the 60"/cm measurement, then down to the number of guns firing. The Commander of the Hipper rolls a 1. This shifts the fire 2 columns to the left. Still 2 hits but the Hipper gets a special damage roll (because a roll of 1 is less than the number of hits obtained). At 60"/cm, 8 inch guns penetrate 3 inches of belt or 2 inches of deck. The Wichita has 5" and 3.5" respectively so this hit penetrates just over half the belt amour and half the deck amour. This means that only half regular damage is done. 2 hits x 50 pts (for 8"guns) x 1/2 (only half damage) is 50 points of damage. The Wichita adds 50 points to its damage total.

For the special damage the Hipper rolls a 4 on the colored die and 3 on the white die. Modified for long range (the right hand section of the hit table) this becomes a 3, 3, which is a turret special damage. The Wichita has 6" of Turret amour to the Hipper's 3" penetration at this range so it is a Half Penetrating Special. A 3, 3 half-penetrating is 2 Damage, 1 Secondary, and All Secondaries Fire 3 Levels Down for 1 Turn. The Wichita rolls for which Secondary is lost, adds 2 hits or 100 points to its damage total, and notes that its secondary fire is -3 columns next turn. As the Hipper is locked on, a full salvo of ammunition is used.

The Wichita Fires back.

9 x 8" guns at 60"/cm. at this range, the modification for first fire is half salvo, so the 9 guns fire as 5. Follow the 8" gun row out to the 60"/cm measurement, then down to the 5 gun row. The Wichita is expecting 1 hit. The Captain of the Wichita rolls a 3. This stays at the same point in the row, so generates 1 hit. Since the number of hits is less than the die roll, there is no special damage. At this range 8" guns do not penetrate the Hipper's 3.25" Belt or 2.5" Deck so the Hipper takes a half damage, 25 pts. As the Wichita is locking on at long range, only a half salvo of ammunition is used.

b) Example 2: Astoria vs. Akigumo (Yugumo class destroyer)

Astoria turned 6"/cm, first fire at destroyer, Akigumo chasing splash, range 23"/cm

The Akigumo is chasing splash so it is not able to fire. If it survives this turn's fire it will launch 2 banks of torpedoes (8 Long Lance) at the Astoria in the following torpedo phase.

The Astoria fires 9 x 8" guns at 25"cm (rounded up). At this range, the first fire penalty is half salvo, so 9 guns drops to 5 guns. In addition, due to turning more than 4"/cm, there is an additional half salvo penalty, so the actual effective number of guns drops to 3. Note that by applying the half salvos in sequence and rounding, the final number of guns is 3, rather than the 2, that would be used if a quarter salvos were calculated in one step.

Using the 8" gun row, and going out to the 25"/cm range measurement, then down to the 3 gun row, shows that the Astoria is expecting 2 hits. The remaining portion of the 'more than 4" turn' penalty is then applied, which is a 3 column shift to the right. There is a further shift of 3 columns to the right for the Akigumo's chasing splash, and a further 2 columns to the right for the Akigumo's size.

After applying all these modifications, the final result is that the Astoria is expecting 0 hits and must roll a 1 for a single hit. The Commander of the Astoria rolls a 3 and misses. As the Astoria is not locked on and it turned more than 4 inches, only a 1/4 round of ammo is used to lock on.

6. Phase 2D: Apply Damage

After all players on both sides have conducted fire, each player should check each of his ships to determine how much damage was applied this turn, and how much has been sustained in total during the game.

If the damage sustained during the turn is equal to or greater than 75% of the ship's original point value, the ship is sunk by overwhelming damage. Remove the model from the playing area, but leave any torpedo cards that represent torpedoes fired by this ship. The torpedoes continue in play regardless of whether the ship is sunk.

If the damage total sustained throughout the game equals or exceeds the ship's original point value, the ship is sunk and the model should be removed from the playing area. As with overwhelming damage, any torpedoes launched by that ship remain in play.

7. Phase 3: Lay Torpedoes.

Torpedoes are fired before smoke is removed. See complete rules for details.

8. Phase 4: Remove Smoke/General Cleanup

Smoke that was laid during the movement phase (1B) is removed now. You also mark ships that are potential torpedo targets. You mark the bow, the stern and the funnel position. The funnel position should be marked on both sides of the ship. By recording these marks, the starting position of the ship is fixed in case torpedo hits change the movement of the ship. This is also done for accuracy when checking torpedoes.

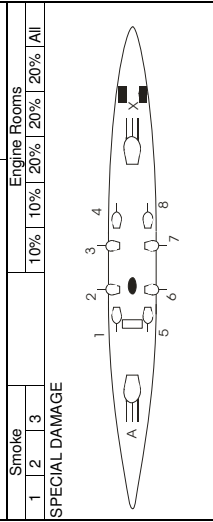
If not already done so, ship damage totals should be checked, and any ships which have reached or exceeded their total of damage points are removed as sunk. Ammunition usage should be checked and marked off, based on the firing that occurred. Torpedo cards for sets of torpedoes that have completed the maximum possible run should be removed from the table. General cleanup of the play area should be carried out.



Supremacy at Sea

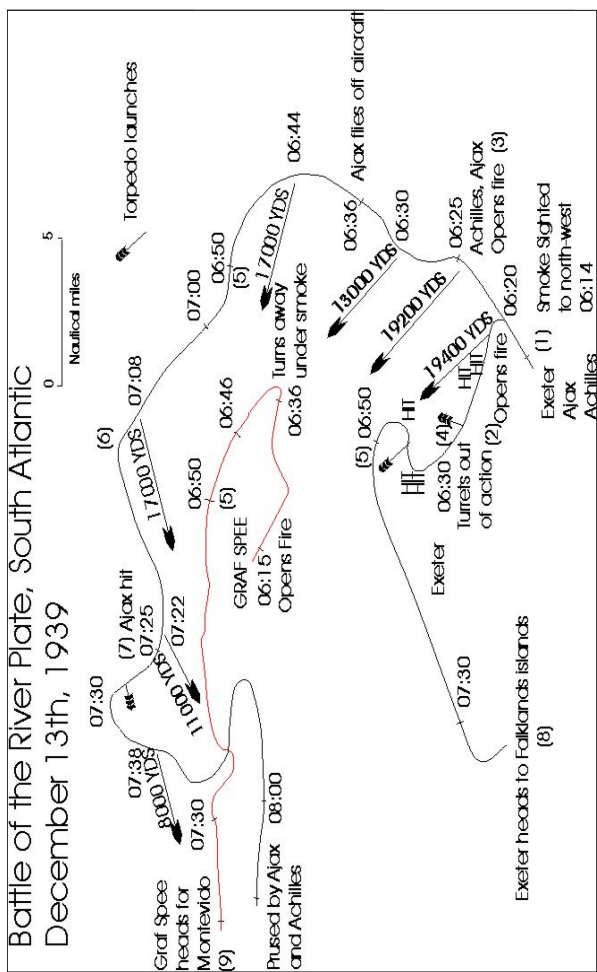
NAME		DESCRIPTION			
Admiral Graf Spee		Admiral Graf Spee			
BELT	DECK	TURRET	BULGE	SIZE	AA High/Low
4.25	2.25	5.5	YES		30/20
POINTS		SPEED			
2370		26			

Smoke		Engine Rooms			
1	2	3	10%	10%	20%
SPECIAL DAMAGE					



Damage		GUNS		TORPS	
1	90	6 x 11" / 90 / 10		2 x 4	
2	180	8 x 5.9" / 40 / 6			
		Mains		Secondaries / Tertiaries	
3	270	A	X	1	2
4	360	1	2	3	4
5	450	5	6	7	8
6	540	1	2	3	4
7	630	5	6	7	8
8	720	1	2	3	4
9	810	5	6	7	8
10	900	1	2	3	4
11	990	5	6	7	8
12	1080	1	2	3	4
13	1170	5	6	7	8
14	1260	1	2	3	4

MOVE / FIRE	6:15
1	A 13
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15	



- The Graf Spee is spotted 150 miles east of the Plate Estuary. North west of three British Cruisers at 06:14 on the 13th of December 1939.
- Facing heavier armament the British attempt to Split the German fire. The Exeter closes to the south
- With all ships firing the two light cruisers move north.
- The Graf Spee however concentrates it's fire on the Exeter badly damaging it.
- At 06:50 all ships have turned westward.
- The Exeter is down to one turret and is burning while the Ajax and Achilles make a nuisance of themselves.
- At 07:25 an 11 inch hit knocks out Ajax's two rear turrets.
- Rather than sink, the Exeter breaks off and heads to the Falklands. The Achilles has suffered only minor damage.
- At 08:00 the Graf Spee has suffered only minor damage, yet she fails to press home her advantage and heads for Montevideo. The British light cruisers continue to shadow her.

Orient the Graf Spee on a course of 120 degrees (0/360 is north, 90 is East)
 Locate the Ajax 62 inches south and 40 inches east of the Graf Spee on a course of 60 degrees.
 The Achilles and Exeter are following the Ajax, line a stern, 5 inches apart.
 All ships must execute the first turn as printed, they may write their own fire orders.

BRITISH CRUISERS

Class Name	L#	No. Built	Launch Year	A R M O R		Bulge	AA High	AA Low	Mains	Secondaries	Anti Sub	Mines	Torpedo/ Gun Notes	Size Mod	A/C	Sink Points	Speed Knots	Build Points	Fuel Load	Range @ 15 Knots
EXETER	12	2	28-29	Belt 3	Deck 2.5	Turret 2	NO	20	6x8"/60/8	4x4"/30/4			2x3		1	1815	32	8000	2000	10000
LEANDER 1st GROUP	13	5	31-34	Belt 4	Deck 1.5	Turret 1	NO	40	8x6"/40/8	8x4"/30/4			2x4		1	1500	33	7000	2000	12000
Leander, Achilles, Ajax, Neptune, Orion.																				

GERMAN CRUISERS

Class Name	L#	No. Built	Launch Year	A R M O R		Bulge	AA High	AA Low	Mains	Secondaries	Anti Sub	Mines	Torpedo/ Gun Notes	Size Mod	A/C	Sink Points	Speed Knots	Build Points	Fuel Load	Range @ 15 Knots	
ADM. GRAF SPEE	2	2	33-34	Belt 4.25	Deck 2.25	Turret 5.5	YES	30	6x11"/90/10	8x5.9"/40/6			2x4		2	2370	26	15000	2500	12000	
Admiral Scheer, Admiral Graf Spee.																					
													6x4.1"/30/4 AA								

NAME Exeter						DESCRIPTION Exeter											
BELT	DECK	TURRET	BULGE	SIZE	AA High/Low	BELT	DECK	TURRET	BULGE	SIZE	AA High/Low						
3	2.5	2	NO		20/10	4	1.5	1	NO		40/20						
GUNS 6x8"/60/8 4x4"/30/4						TORPS 2x3											
POINTS 1815						SPEED 32											
Smoke 1 2 3 Engine Rooms 10% 20% 30% All																	
SPECIAL DAMAGE																	
MAINS				AMMO USAGE				Secondaries									
	A	B		X		1	2	3	4								
1			1		1												
2			2		2												
3			3		3												
4			4		4												
5			5		5												
6			6		6												
7			7		7												
8			8		8												
MOVE						FIRE											
A10 L6						1											
						2											
						3											
						4											
						5											
						6											
						7											
						8											
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NAME Ajax						DESCRIPTION Leander 1st Group												
BELT	DECK	TURRET	BULGE	SIZE	AA High/Low	BELT	DECK	TURRET	BULGE	SIZE	AA High/Low							
4	1.5	1	NO		40/20	4	1.5	1	NO		40/20							
GUNS 8x6"/40/8 8x4"/30/4						TORPS 2x4												
POINTS 1500						SPEED 33												
Smoke 1 2 3 Engine Rooms 10% 20% 30% All																		
SPECIAL DAMAGE																		
MAINS				AMMO USAGE				Secondaries										
	A	B		X	Y		1	2	3	4								
			1			1												
			2			2												
			3			3												
			4			4												
			5			5												
			6			6												
			7			7												
			8			8												
MOVE						FIRE												
A16						1												
						2												
						3												
						4												
						5												
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						15												
						16												

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NAME Achillies						DESCRIPTION Leander 1st Group												
BELT	DECK	TURRET	BULGE	SIZE	AA High/Low	BELT	DECK	TURRET	BULGE	SIZE	AA High/Low							
4	1.5	1	NO		40/20	4	1.5	1	NO		40/20							
GUNS 8x6"/40/8 8x4"/30/4						TORPS 2x4												
POINTS 1500						SPEED 33												
Smoke 1 2 3 Engine Rooms 10% 20% 30% All																		
SPECIAL DAMAGE																		
MAINS				AMMO USAGE				Secondaries										
	A	B		X	Y		1	2	3	4								
			1			1												
			2			2												
			3			3												
			4			4												
			5			5												
			6			6												
			7			7												
			8			8												
MOVE						FIRE												
A16						1												
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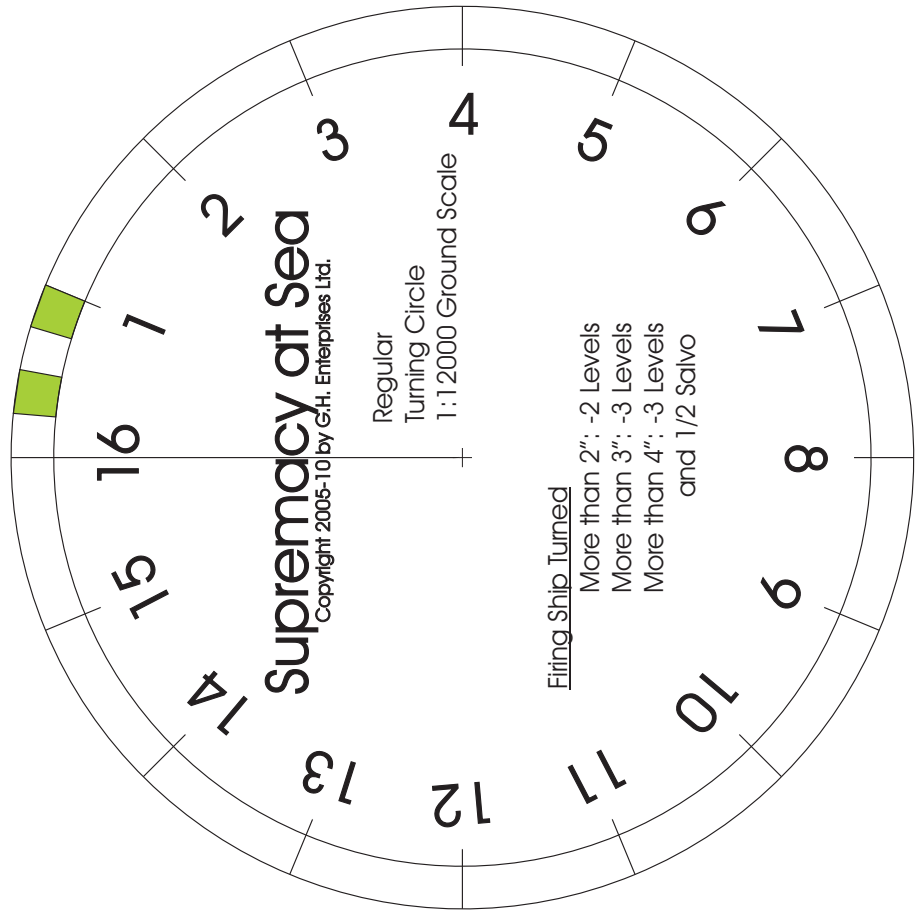
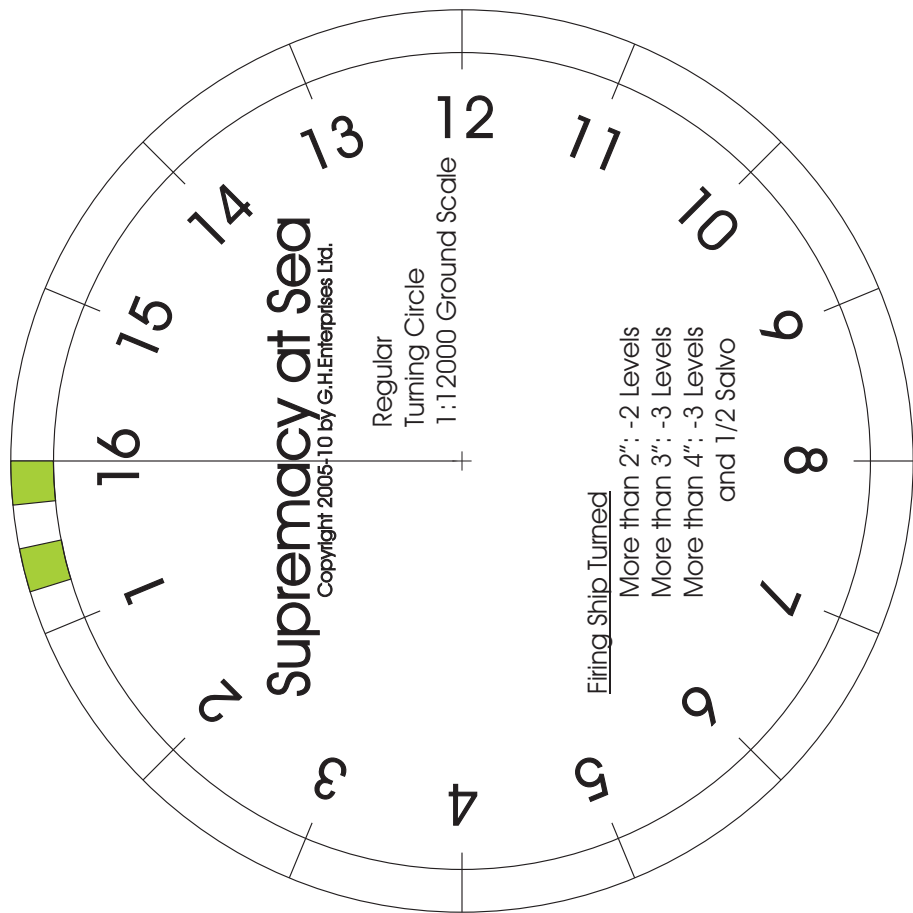
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SPECIAL DAMAGE CHART

Colour	White	PENETRATING HITS	HALF PENETRATING HITS
D E C K	0	6 Damage, 2 Engine rooms, Speed to 14 Kts for "Die-2" Turns, 1 Secondary KO'd	2 Damage, Mains fire -3 Levels for 1 turn, 1 Secondary KO'd, A/C KO'd, Searchlights KO'D
	2	3 Damage, 2 Knots, On course die roll turns	1 Damage, 1 Knot, On course sum of 3 die roll inches
	3		
	4	3 Damage, Mains fire down 3 Levels, A/C and Searchlights KO'd, On fire	1 Damage, 1 Main turret jammed
	5		
	6	5 Damage, 1 Group of mains KO'd, Ship EXPLODES on a roll of 5 or 6	2 Damage, Cease fire for "die-2" turns (all weapons)
D E C K	1	2 Damage, 4 Knots, 1 Secondary, Searchlights and A/C KO'd	1 Damage, 1 Secondary, 1 Bank of Torps KO'd, On fire
	2	1 Damage, Mains silent next turn	1/2 Damage, 2 Knots, On fire
	3		
	4	1 Damage, 1 Secondary KO'd, 1 Bank of Torps KO'd, On fire	Secondaries and Torps out One Turn
	5		
	6	2 Damage, 2 Knots, 1 Secondary, Searchlights, Torps and A/C KO'd, On fire	1 Damage, 1 Secondary, 1 Bank of Torps KO'd, On fire
T U R R E T	1	3 Damage, 3 Knots, If Turret + Deck Pen: Lose 1 Group of Mains, Else 1 Main, On Fire	2 Damage, 2 Knots, 1 Secondary KO'd, 2 Banks of Torps KO'd, On Fire
	2	2 Damage, 1 Main KO'd, 1 Secondary KO'd, 1 Bank of Torps KO'd	1 Damage, Mains silent one turn, Searchlights KO'd
	3		
	4	2 Damage, 1 Main KO'd, 1 Secondary KO'd, A/C KO'd, Fire 1 Level Down 1 Turn	1 Damage, 1 Secondary, Searchlights and A/C KO'd
	5		
	6	3 Damage, 3 Knots, If Turret + Deck Pen: Lose 1 Group of Mains, Else 1 Main. Lose 1 Secondary, 1 bank of Torps, On Fire	2 Damage, Lose All Torps, On fire
T U R R E T	1	Magazine EXPLOSION: Lose 1 Main, Take 10 Own Damage	1 Damage, 1 Knot, 1 Main KO'd
	2	3 Damage, 1 Main KO'd, Mains Fire 3 Levels Down Forever	2 Damage, 1 Secondary, All secondaries fire 3 Levels down for 1 turn
	3		
	4	2 Damage, Mains Silent for 1 Turn, 1 Main and 1 Secondary KO'd	1 Damage, All secondaries fire 3 Levels down
	5		
	6	4 Damage, 2 Knots, Lose 1 Group of Mains	2 Damage, 1 Knot, Roll 5,6 to lose 1 Main
B E L T	1	6 Damage, 12 Knots, 2 Secondaries KO'd, On Fire	2 Damage, 1 Secondary KO'd
	2	2 Damage, 6 Knots, All Torps KO'd	1 Damage, 4 Knots
	3		
	4	3 Damage, 6 Knots, On course for sum of three die roll inches	1 Damage, On course for sum of three die roll inches
	5		
	6	4 Damage, 2 Knots, Rudder KO'd, 1 Secondary KO'd	1 Damage, Rudder damaged; Max manoeuvre 1 Inch per turn
B E L T	1	4 Damage, 6 Knots, All Torps KO'd Roll for each loaded bank, Take 1 Torp damage on 5,6; Stop rolling after 1st failure to explode	2 Damage, 1 Secondary KO'd, Searchlights and A/C KO'd
	2	6 Damage, 4 Knots, One engine room, 1 Secondary KO'd, To 10 Knots for "Die-2" Turns	2 Damage, 2 Knots, 1 Secondary KO'd, 1 Bank of Torps KO'd, On Fire
	3		
	4	3 Damage, 2 Knots, Rudder hard over for "Die-2" turns (Must turn at least 1 inch)	On a roll of 5 or 6 Rudder hard over "Die-2" Turns (Must turn at least 1 inch)
	5		
	6	4 Damage, 3 Knots, Speed to 10 Knots for next turn (May accelerate afterwards)	2 Damage, 2 Knots, Roll 5 or 6 to lose one engine room
B E L D T E C + K	1	6 Damage, 2 Engine rooms KO'd, Mains silent for one turn, Speed to 5 Kts for die roll turns	3 Damage, 6 Knots, One secondary KO'd
	2	6 Damage, 2 Knots, Mains silent for "Die-2" turns	2 Damage, Searchlights KO'd, Mains down 3 Levels for one turn
	3		
	4	4 Damage, 1 Engine room, 1 Secondary KO'd To 14 Knots for die roll turns	2 Damage, 1/4 Secondaries KO'd, Roll for which quarter, Bow, Stern, Port, or Starboard
	5		
	6	8 Damage, 6 Knots, All power lost for die roll turns	2 Damage, 1 Main Jammed, 1 Secondary KO'd
B E L D T E C + K	1	10 Damage, 5 Knots, Lose 5 knots per turn until DEAD in the water	4 Damage, 4 Knots, Roll each turn for bulkhead damage, Lose 5 Knots on a 5,6; Stop rolling on a 1
	2	6 Damage, One engine room, One Main KO'd, Lose all Secondaries for "Die-2" turns	2 Damage, 2 Knots, One secondary KO'd, One Bank of Torps KO'd, On fire
	3		
	4	4 Damage, 4 Knots, Fire - Take 200 pts Damage on a 5,6. Fire is out on a roll of a 1	2 Damage, 4 Knots, Fire - Take 200 pts Damage on a 5,6. Fire is out on a roll of a 1
	5		
	6	8 Damage, 6 Knots, One group of mains, Ship EXPLODES on a Roll of 5 or 6	4 Damage, 4 Knots, All Torps KO'd Roll for each loaded bank, Take 1 torp Damage on 5,6. Stop rolling after 1st failure to explode

SPEED LOSS vs ENGINE ROOM LOSS						
CA, CL, CVE	10%	20%	30%	ALL	-	-
BB, BC, CV	10%	10%	20%	20%	20%	ALL

Note, losses are cumulative, for example:
3 ER on a BB = 10+10+20 = 40% loss

Supremacy at Sea

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SUPREMACY AT SEA: HIT TABLE - Battle of River Plate Scenario

Hit Modifications

Firing Ship Turned	More than 2"/cm (1"/cm): -2 Levels More than 3"/cm (2"/cm): -3 Levels More than 4"/cm (3"/cm): -3 Levels+1/2 Salvo regular (sharp)	Target Movement	Less than 25 Kts: +1 Level Less than 15 Kts: +3 Levels Less than 5 Kts: +5 Levels Chasing Splash: -3 Levels	Size Mods: See Stat Sheets	Special Damage
		Acceleration	CA/CL: 8 Kts DD: 10 Kts		1 per 6 hits For < 6 hits Die roll <= # hits

GUN	+1 Specials										-1 Specials																					
	5	10	15	20	25	30	35	40	45	50	60	70	80	90	45	50	60	70	80	90												
GE 11" Guns - 90	18	X	17	X	16	X	15	-	-	13	12	11	10	9	8	X	6	5	4	3	2.5	3	3.5	4	4	2.5	2	2.5	2	2	2	
8" Guns	UK - 60	5	10	15	20	X	7	6	X	5.5	5	4	3.5	3	2.5	2	2	2.5	2.5	2.5	1	1.25	1.5	1.75	2	1	1.25	1.5	1.75	2	2	
6" Guns	40 pts	5	10	15	20	X	6	X	5	X	4.5	4	3	2.5	2	1.75	X	1	0.75	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
3.9" - 4.1" Guns	ALL - 30 pts	5	X	X	X	X	2	X	1.75	X	X	X	X	1.25	0.5	0.5	X	1	0.75	0.5	0.25	0.25	0.25	0.25	0.25	0.25	0.5	0.5	0.75	0.75	1	-
First Fire Deductions:		-3 Levels										Half Salvo																				
No.	1 4	3 1	3 3	2 2	2 2	1 1	1 1	1 1	1 1	1 1	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	Hits in this area must roll again for a special, needing 1 on a 6-sided die.										
of	4 4	4 4	4 4	4 4	3 3	3 3	3 3	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2											
Guns	5 6	5 7	5 8	5 9	4 4	4 4	4 4	3 3	3 3	3 3	3 3	3 3	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2	2 2											
Firing	7 10	10 10	9 9	8 8	8 8	7 7	7 7	6 6	6 6	5 5	5 5	5 5	4 4	4 4	4 4	3 3	3 3	3 3	3 3	2 2	2 2											

Fire procedure: Determine type of gun firing, then find the range on that line, read down that column to the number of guns firing. Apply First Fire Deduction if it is the first shot at that target, then adjust for any modifiers that apply from the lists at upper right. + Levels means to move to the left, - Levels to the right, by the number of columns indicated. Finally, roll 1 six sided die: 1 = +2 levels, 2 = +1 level, 3,4 = no change, 5 = -1 level, 6 = -2 levels. Result is number of hits.