

## 1. WWI Supplement.

The rules for the World War I era game is much the same as for WWII. There are several changes to firing and fire control that are made.

**Fire Control** - As in WWII era all ships are considered to have with some kind of fire control system. But this may not be as effective as a WWII fire control director (FCD) system. The British introduced the fire control director in 1912. This gave their ships the ability to compute the expected location of the target and fire with all guns at the same time from a single location. A special FCD hood or turret was fitted to house the system, usually right over the armored conning tower. This was installed on a number of British ships before Jutland. After which it was installed within a year on almost all British first line capital ships. The Germans used a less effective version of the Director system called the *Richtungsweiser*. This was installed within the conning tower itself. Ships without either of these computer systems had a more rudimentary fire control command system. The Fire Control column of the ships data table lists the fire control system installed at the beginning of the war or at the completion of the ship.

1. Ships without a true director computer is label with a 'C'.
2. Ships that have a true FCD are labeled with a 'D'.
3. Ships with a *Richtungsweiser* are labeled with a 'R'.
4. Ships with 'D' class fire control have the standard +8 added to their fire factors if they straddled the target in the previous turn.
5. Ships with 'R' class fire control have +6 added to their fire factors (instead of +8) if they straddled the previous turn.
6. Ships with 'C' class fire control have +3 added to their fire factors (instead of +8) if they straddled the previous turn. Ships with 'C' class fire controls can never use the narrow ladder when firing.

When ships lose their fire control system, no matter which type, the ship has a -4 modifier when firing. There is no bonus factor added for straddling. Only wide ladder is allowed when the fire control is knocked out.

With out fire control of any kind two times the DAF number is subtracted from the  $N_s$  total instead of the usual one times.

Ships with 'C' or 'R' type directors do not suffer fire control loss with Special Super Superstructure penetrations of FCD sections. There are no FCD on these type ships and you cannot lose what you do not have. To lose fire control for 'R' and 'C' type fire control the

Forward Conning Tower must be penetrated.

Over time ship's fire controls were upgraded. After Jutland both navies identified the need for improved fire control systems. Most British ships were upgraded to 'D' class fire control. Similarly timed the German fire control was improved to 'R' type in ships with 'C' class fire control systems.

**Improved Rangefinders.** The Germans improved their rangefinders one factor after Jutland. '+1S' became '+2S' rangefinders and '+0S' became '+1S'. Most British battleships and battlecruisers were upgraded with '+1' rangefinders if they didn't already have them.

**Ladder Ranging** - The German introduced ranging by firing in ladders. This involves firing salvos of a number of shells at a series of known ranges. The British used a slower bracketing system. The British switched to ladder ranging after Jutland.

**Ranging Ladders** - When firing to range all guns that can bear on the target can be used to compute the  $N_s$  if using ladder ranging.

**Bracket ranging** - When ranging the  $N_s$  factor is halved until the salvos straddle the target at least one time or the range has dropped below DAF range column 1.

**Ship Formations** - Since navies practiced formations to a higher degree than WWII collisions between friendly ships are only rolled if they come within 3 of each other while moving in a straight line. If turning 45 degrees or more they are still subject to collision if within 5 of one another.

**'B' Belt Body** armor scheme. This is an older design that attempted to cover most of the waterline hull with armor. In addition to the main belt amidship the ends were covered by armor of some thickness. The difference would be that there is almost no chance of over-penetration of the hull ends if the armor is penetrated by heavy shells. The secondary often is in case-mates as in early cathedral body ships. Upper belt hits can also cause flooding.

**Turret arcs.** WWI ships often had turrets amidship and on the wings. With these non-center-line turrets comes more complicated firing angles.

**Firing across deck.** Some wing turrets may fire in a small angle across the deck for a broadside on the opposite side of the ship. This can produce superstructure damage. Roll one time, but one time only per the Superstructure Hits table for its own damage if the

ship fires across its deck. The angle of fire for guns firing across the deck for wing turrets is 15 degrees of directly broadside.

**Casement firing arcs.** Casements have limited firing arcs. This often quite complex depending on the individual ship and is beyond the scope of these rules. Instead more generic firing arcs are used.

Only when the target is within 45 degrees of the side can all guns on one side fire at a target. One half the guns on each side can fire 15 degrees forward to 45 degrees aft. The other guns on that side can fire 15 degrees aft to 45 degrees forward.

**Communications:**

1. Wireless messages sent via wireless must be 12 words or less.
2. Signal flag messages passed along a line of ships is passed along at the rate of two ships per turn.