COASTAL COMMAND: TACTICAL RULES

This version is for use with small castings and a Hex map. This section contains tactical rules that can be used as a complete game system or elements can be used to supplement an omitted section from another set of rules.

A.1 **Game Scale**

Time: One turn = 30 seconds Distance: One Hex = 30 yards
Speed: One Movement Point = 2 knots
Ship: One casting = One ship Crew: One section = 1-5 men

A.2 **SEQUENCE OF PLAY**

I. Administrative Phase

A. Determine Wind Changes
B. Command Decisions
   1. Smoke 2. Maneuvers Chits 3. Speed Change Chits
   4. Reassign boat's crew sections
C. Maintenance – Engine Checks

II. ACTIVITY Phase

A. First Movement Impulse
B. Torpedo 1. Fire 2. Movement 3. Any Resolution
C. Initial Fire Phase
   1. SPOT the target and Determine the Range
   2. Determine Weapons in the Firing Arc and the Fire Intensity rating (FIR)
   3. Indicate whether the Fire is Spread or Directed (Concentrated)
   4. Determine the Firing Platform Stability Rating (FPS)
   5. Determine the Target Acquisition Difficulty Rating (TAD)
   6. Cross Index the FPS & TAD to produce the Fire Effectiveness Rating
   7. Cross Index the FIR & FER on the Type of Fire Chart (Spread/Directed)
   8. Roll the dice to determine if a hit is made based on the Percentage chance
   9. If a hit is made determine which section was hit and the Damage Effects.
D. Mine Resolution
E. Second Movement Impulse
F. DRIFT Moves
G. Secondary Fire Phase
   10. SPOT the target and Determine the Range
   11. Determine Weapons in the Firing Arc and the Fire Intensity rating (FIR)
   12. Indicate whether the Fire is Spread or Directed (Concentrated)
   13. Determine the Firing Platform Stability Rating (FPS)
   14. Determine the Target Acquisition Difficulty Rating (TAD)
   15. Cross Index the FPS & TAD to produce the Fire Effectiveness Rating
   16. Cross Index the FIR & FER on the Type of Fire Chart (Spread/Directed)
   17. Roll the dice to determine if a hit is made based on the Percentage chance
   18. If a hit is made determine which section was hit and the Damage Effects

A.3 **SHIP FORMATS**

Each ship will be divided into equipment sections. A section can consist of a single gunner with various weapons or men working a system such as an engine. The number and types of sections will vary between vessels as given in the ship list. A master format sheet is provided which can be duplicated and customized based on the vessel's data. The customized form can be saved as a master copy or laminated for multiple uses. If needed players, should examine castings or ship schematics to help with the placement of the sections. However many vessels had modified gun systems or added additional systems.

A. The COMMAND section includes the bridge and navigation systems. Ship classes will have two Command section boxes allowed. An impaired command section will reduce Command options.
B. ENGINE sections include the engine room, fuel tanks and other items needed to propel the vessel. Ship classes will have two section boxes allowed and Boat classes one. A hit may only impair the vessel or may blow it up. An impaired result would include anything from a damaged fuel line to a bent propeller. A destroyed result indicates massive damage to the engine. An explosion represents an engine room fire and burst fuel lines.
C. Each GUN section consists of a specific Weapon System with crew and lists it's Firing Arc. Each vessel is divided into four zones: Forward- Left, Forward-Right, Rear-Left and Rear-Right. On a HEX map (Bow pointing hex side is 1, clockwise 2, 3, 4-stern hex side, 5, 6) a Forward-Right arc = 1 and 2; Forward-Left arc = 1 and 6; Rear-Right arc = 3 and 4; Rear-Left arc = 4 and 5. Sections arcs can include multiple zones. For example a bow-mounted gun can fire into both the Forward-Left and Forward-Right zones 6,1,2 hex sides? Other examples are 360 degree arc which is all zones, Left arc = 1, 4, 5, 6; Right arc = 1, 2, 3, 4; Rear arc = 3, 4, 5. A midship superstructure may produce a blind spot with the blocked hex side indicated.
D. Other systems weapon systems such as Torpedo tubes and Depth Charge Launchers will also have sections assigned. Special equipment such as radar gear may also have an assigned section.
E. Each vessel will be allocated Hull points which will indicate how much damage that the vessel's hull can suffer before it sinks. It represents the superstructure and other miscellaneous equipment as well as the hull itself. The Hull Hit point formula is one point per FIVE tons of ship weight.

A.4 **ENGINE FUNCTIONS**

Engines used in the small craft tended to be old, battle damaged and with squadrons often lacking repair parts, breakdowns were frequent. This was especially the case during long voyages and high-speed maneuvers.

A. In campaign games, when Boat Craft are given missions to patrol zones outside of their range, each boat must make an engine check prior to the start and at the end of the battle scenario. There is a 10% chance that the engine will breakdown.
B. During a scenario, boats must make an each turn that they use Evade maneuvers. There is a 5% chance for a breakdown on the initial attempt and an additional 5%

is added for each additional attempt to use an Evade Maneuver. The chance to fail is increased by 50% if the engine is impaired.

C. A multi-engine section Ship class vessel will have their maximum speed rating reduced one code, if one section is impaired or destroyed. When using movement distances at Battle speed or less, an impaired ship engine will reduce the Speed rate by TWO Movement Points (MPs).
D. Stopped boats cannot be heard for spotting and are subjected to Drift rules. They must roll to start the engines with a 15% chance that they will not start. Another attempt to start the engines can be made the next turn. Boats can increase speed only to the "C" Speed rate on the turn that an engine is started. Ship class craft cannot willingly stop their engines.
E. All vessels can idle their engines instead of stopping them. They can be heard for spotting purposes but are not subject to Drift rules. They are not subject to start-up check rolls when they begin to move.
F. Broken down vessels can be towed. If broken down prior to the start, they cannot be towed into a scenario. Such vessels are unavailable for the battle but can be retrieved and towed home after the scenario is concluded. Grounded vessels can be towed in order to be freed. The towing vessel must be of the same or larger class than the towed vessel. The towing vessel cannot exceed a speed of one less than its Battle speed.

A.5 **MORALE**

The nature of warfare at sea prevents a man from fleeing when demoralized. Therefore morale can be ignored or the rules in section 3.3 can be used.

A.6 **MELEES**

Hand to hand combat between the crews of craft occurred but were not common. Melees were a combination of intense small arms fire supported by the vessels MGs. Such actions were deadly for both the winner and the loser. In order to initiate a boarding, hand-hand combat, both vessels must end the turn in the same hex. Simply compare the combatant's total boat FIR with the higher rating being the 'winner'. All crew sections of the loser are all destroyed and all of the winner's sections are impaired. Do not allow melees in basic introductory scenarios.

A.7 **SMOKE**

Smoke can be produced by burning vessels or laid intentionally as a screen.

A. A burning vessel will create a patch of smoke equal to a hex each turn that it burns. The smoke will drift in the direction of the wind at a rate of one hex per turn.
B. A vessel can announce that it will lay a screen during the Command Decisions Segment but will not commence until the next turn. Smoke will be placed in each hex that the vessel entered. A vessel with an impaired engine cannot lay smoke.
C. Smoke will block Spotting and targeting attempts.
D. The duration of smoke is dependent on the wind velocity. Every TENTH turn a Smoke Dissipation Roll made. A d10 is rolled with the smoke removal occurring on roll results listed below. The chance is based on the current wind velocity.

Dissipated Smoke is removed regardless of how long it has been on the board. NONE = 0; 5 Knots = 1,2; 10 knots = 1,2,3; 15 knots = 1,2,3,4,5; 20 knots = 1,2,3,4,5,6,7; 25 knots + = Automatically removed.

A.8 **TORPEDOES**

A. All torpedo tubes begin the scenario loaded. It takes four minutes, 8 turns to reload each tube. More than one tube can be reloaded at once. A section, which is impaired, requires four extra turns to be loaded.

B. Torpedoes run at a depth, which will pass under a boat class vessel but hit any Ship class vessel. Torpedo movement and contact effects on ships are revolved during the torpedo segment. Torpedoes move at speed G or H depending on their type. Torpedoes will run straight for THREE turns with the old trail marker (pipe cleaners/ chenille stems) being removed as the new one is laid.

C. When the vessel enters a hex that contains the trail marker, crosses the path, this indicates contact. Contact does not mean that an explosion will occur. Torpedo fuses and other variables could result in a dude despite contact. This Chart lists torpedo types and data.

Type	Country	Year	Range (yds)	Speed	Fuse	Ship Used
Mark 12	UK	1939	4000	G	Both	MTB
Mark 8	UK	1942	7000	G	Both	MTB, SUB
T10	USA	1939	3500	G	Both	DD, MTB, SUB
T14	USA	1939	4500	H	Both	SUB
T15	USA	1939	6000	G	Both	DD
G 7 A	German	1939	8000	H	Both	DD, MTB, SUB
G 7 E	German	1939	5000	G	Both	SUB
A1105	Italy	1939	2000	G	Contact	MTB
T92	Japan	1939	6000	G	Contact	SUB
T94	Japan	1939	8000	G	Contact	DD

Torpedo Detonator Tables provides the percentage chance for an explosion

Country	Year	Fuse Type	Explodes % Chance
USA	1940-43	Contact	1-60%
USA	1940-43	Magnetic	1-40%
USA	1944-45	Both	1-80%
German, UK, Italy	19439-45	Magnetic	1-70%
German, France	1939-45	Contact	1-75%
UK, Italy, Japan	1939-45	Contact	1-80%

D. If the torpedo explodes, then divide the ship into three parts with an equal chance for a hit in each part on a d6. All sections in the damaged part of the ship are destroyed and the ship receives 1/3 of its allocated Hull points as hits on the hull. (Ex a ship with 30 hull points allowed would receive 10 hits on the hull record track.

E. Optional Rule: Boat class vessels can be targeted but contact is not automatic when the boat enters a trail hex. There is a 50% chance that the torpedo will

travel beneath the hull and miss. If the torpedo does contact and explode, then the entire boat is destroyed.

A.9 SUBMARINES

Operations against submerged submarines are outside the scope of these tactical rules. Most contacts between small patrol craft and submarines occurred while the submarine was travelling on the surface. Submarines would use deck guns and torpedoes to fight off the patrol craft.

A. A submarine cannot use Evade Movement. It can submerge but cannot turn more than one hex side per turn while diving. It takes four turns (two minutes) for a submarine to complete the dive. Once submerged the submarine cannot be attacked unless the Depth Charge rule is used.

B. Use CHART I to determine any special conditions for the submarine engagement.

C. Optional Rule: Depth Charges cannot be used against surface ships. However in fact, numerous boats were damaged by nearby exploding depth charges. Only submerged or diving submarines can be targeted. In order to damage the submarine, whose location is plotted on a piece of paper, a vessel without SONAR must drop the 'can' in the sub's hex or adjacent hex. A vessel with SONAR must drop the can in the sub's hex or in a two hex ring around the hex.

D. Depth Charge Hit Procedure. The submarine captain plots his location and depth in 20-foot increments up to a depth of 160 feet. The depth Charge user does the same thing to the 'can's' fuse. If the recorded depths are within 20 feet of each other then the submarine is hit. A submarine is sunk after 10 hits. Each side records the attack run and compares it after the battle. The uncertainty of a kill may force the surface ship to make repeated runs and waste valuable time. A submerged sub moves at speed code A and can change depth up to 40 feet per turn. If using this rule, then torpedoes should be allowed to hit boats.

A.10 AIRCRAFT

A. Aircraft use the Air Sortie rules (2.7). Aircraft move at Speed Code H and have a Firing Platform rating of Good. Any vessel within fifty hexes of the plane can make anti-aircraft fire. The vessel's FIRs cannot be combined.

B. Aircraft can make one of three types of attack runs. A High Level Bomb run makes both vessel and aircraft hard to hit. A Low level Strafing run provides both groups with good targets. A Dive Attack run provides the plane with the best chance to bomb a ship while limiting the time that it is a good target itself. A High Level plane can only bomb and cannot use its guns. The plane is placed over the target hex with the Fast-play option.

C. The Fast-Play Combat resolution system requires that one vessel per run be declared the target. The type of attack run is declared and resolved during the appropriate phase. Damage is determined based on Aircraft Attack Chart. Next anti-aircraft fire by the target vessel is resolved during that phase

whether a hit was made or not. Other vessels using anti-aircraft fire will fire during the Activity Phase.

D. Advanced Option Attack Path Resolution. Each aircraft will traverse the board as if it were a surface vessel. When not attacking the plane is at a very high altitude. When declaring an attack, the aircraft will be given a Kill Zone path. The kill zone will be one hex wide and vary in length depending on the type of attack run. The Kill Zone for High Level runs and Low Level Strafing runs equal their movement rate. Dive Attack planes, due their changes in altitude will move only at Code C but are still treated as Speed H for target Acquisition. With any attack run option, only one bomb can be dropped per plane per turn. Resolve gun firing on Aircraft Attack Chart.

Aircraft Attack Percentage Chance To Hit

Target Speed	A-B	C	D	E-F	G	H
Dive Attack	50	35	25	20	15	15
Strafing Run	35	25	20	15	15	10
High Level	25	20	15	15	10	5

A.11 EXPENDABLE CRAFT

A. This category of craft includes manned torpedoes and suicide boats. Both are guided to the target by a lone driver. They move at speed code G. Upon contact, they cause the damage equal to a torpedo hit. Any hit by gunfire will either explode the craft (50% chance) or kill the driver automatic with the hit.

B. If the driver is killed, the craft will run wild until it hits a target (friend or foe) or exits the board. If running wild, roll a d6 each turn during the movement phase. map (Bow pointing hexside is 1, clockwise 2 , 3, 4-stern hexside, 5, 6) If a One is rolled roll a second die with an Odd result indicating that the craft exploded.

A12 COMMAND DECISIONS SEGMENT

During this segment, each vessel's controller announces if a Smoke Screen will be laid and places a tactical chit which denotes the new speed and turns. The inverted chits (we use small poker chips with one color being turns and the second color being speed rate) are placed next to each vessel. One chit/chip will indicate turns and the other one will indicate speed.

B.1 ACTIVITIES PHASE – MOVEMENT

A. The distance during a turn which a vessel can move is based on its Current speed. For faster play a speed code is used rather than actual knots. The knot to Speed Code conversion is listed in Chart R. For each five knots of speed a vessel will receive one movement point. Battle damage and other factors may limit the speed at which a vessel can travel.

B. Full Speed is the maximum speed allowed. Travel at this speed was limited due to the strain that it placed on the engines. Full speed rates are also used when a player wants to declare an Evade Move.
C. Battle Speed is the normal movement rate used.
D. Impaired Speed is the maximum speed allowed if a one-engine section is damaged or both sections of a two-engine section vessel is impaired or one engine in a two-engine section vessel is destroyed. A two-engine section vessel with one impaired will subtract one MP from its Impulse allowance.
E. Vessels can also use Stop Speed. While at Stop Speed , the engines can be turned off or idling. See Engine rules concerning vessel type restrictions.
F. Movement is divided into TWO Impulses to allow for more active play. Vessels MUST move its entire movement point allowance. Listed distances on the Code Table, CHART R, are per IMPULSE. Vessels can move at any speed code up to the listed Battle Speed unless evading or Impaired. After speed code chits are revealed, the faster moving vessels go first. (Move all code H vessels regardless of side, then all code G, etc.). When declared speeds indicate that a collision may occur, alternate moves using ¼ MP allowance per segment. This overrides the move by code order.

B.2 MOVEMENT CONVERSION TABLES

REVISED CHART R: MOVEMENT CODE CONVERSION TABLE

CODE >	A	B	C	D	E	F	G	H
Knots	1-5	6-10	11-15	16-20	21-25	26-30	31-39	40+
Impulse MPs	4	8	12	16	22	26	32	36

B.3 SPEED CHANGES

Boats can increase speed one code per turn or decrease speed two codes per turn. Ships can increase or decrease one code per turn.

B.4 MANEUVERS

A. The use of Maneuver/ Turn chits will slow play but reduce reaction moves. See Command Decision rule A.12 for types of chits and turns allowed. The speed chit will remain the same and revealed until changed. A Turn chit is placed only when a turn is planned for that impulse. This means that only one turn can be made per impulse.
B. Turns are restricted according to the vessel's class. Ships can conduct only ONE turn of ONE hex-side per impulse and must be made at the beginning of the Impulse before any movement. The turn is conducted using the ship's bow to indicate the new hex-side.
C. Boat class vessels turn TWO hex-side per Impulse which can be preformed at anytime. They can be conducted together or individually. (Ex. A boat can turn to hex-side two or hex-side three during an impulse.)

B.5 EVADE MANEUVERS

A. Evade maneuvers are emergency actions, performed when a craft receives fire or wants to avoid a collision. An evade is actually a combination of erratic

weaves and high speed. The weaves are not plotted on the board, as they are occurring within the confines of the hex. During an Evade the speed is increased one level but no more than Full speed or Full Impaired speed. An extra hex-side of turn is allowed at the end of each Impulse.

B. Break-off. This is a form of an Evade maneuver. They are conducted instead of normal or evade movement. They can only be preformed by a Boat class vessel conducting a torpedo run. The torpedo is launched at the end of the First Impulse. At the beginning of the Second Impulse, the boat can turn up to hex-side 4 (stern/ rear), then move it's remaining MPs. It is treated as an evading target for Firing purposes. An Evade engine breakdown roll must be made.

B.6 DRIFT

The Drift factor is determined during the pre-scenario setup. If wind is used it will adjust the drift rate. A 15-20 knot wind will increase drift one hex. A 25+ knot wind will increase drift two hexes. Ship class vessels and Smoke will drift one hex. Boat class craft will drift two hexes. Mines, debris and pilots will drift two hexes but are not subject to any wind velocity modifications. All vessels in Stop status which are not anchored, docked or grounded are subject to drift.

B.7 COLLISIONS

Collisions can be either accidental or an intentional ram. Collisions between vessels of the same hull composition will both suffer damage. A wooden-hull vessel can not ram a steel-hull vessel. Wooden-hull vessels are sunk if they collide with a steel-hull vessel. If a vessel enter the same hex as another vessel, there is a chance that a collision will occur. Collisions are automatic between Ship class vessels regardless of side and if both vessels end their impulse movement in the same hex. There is a 60% chance of a collision between vessels of the same side which represents surprise and lack of evading actions. There is a 40% if the vessels are on different sides which represents alertness and evading actions. If a collision occurs roll a d10 for the number of Hull damage points received. Each player rolls for their vessel. The results are : 0 = It receives 8 Damage points and is entangled with the other craft for the rest of the scenario
The other numbers indicates the number of damage points received.

C1. ACTIVITY PHASE – FIRE RESOLUTION

A. This section covers Gun weapons fire. Weapons such as torpedoes and mines are covered in their own sections. The effectiveness of gun fire is calculated by cross-indexing a series of ratings found on the various Firing and Target tables. The system may seem cumbersome but will become easier and is needed to reflect the low hit chance associated with small craft warfare, especially under adverse conditions. Several factors are determined during the pre-setup period and should not change during the battle. Vessels have enough ammunition to last the entire battle.

B. The damage inflicted will reduce a vessel's combat ability and is expressed as a system section impairment or destruction. The complete firing procedure is listed in the Sequence of play. The are Two firing Phases located at the end of each Movement Impulse.

C2. **FIRING PLATFORM STABILITY** (FPS)

The larger the ship the less adverse sea conditions will affect the weapons' systems. Platform stability is based on certain conditions. The conditions and vessel class are indexed in CHART S.

C3. **TARGET ACQUISITION DIFFICULTY RATINGS** (TAD)

Seeing a target may be easy. However, the process of sighting it and bringing effective fire onto it is more difficult. If every round fired had been effective the level of men and vessel losses would have been staggering. Acquisition ratings include a combination of target size, maneuvers conducted, range and weather conditions. A TAD of less than 0 is indexed as 0. Consult CHART T.

C4. **FIRE INTENSITY**

Once a target has been selected, then the volume of fire placed on it has to be determined. Two tactics were common among the boats. One was to concentrate fire onto a specific section of the target. The other was too spread fire over the entire target. A Concentrated pattern is directed at a specific section of the target and stated as such. Concentrated fire has a lower chance to hit but when it does the damage caused is greater. A Spread pattern is directed over the entire target and stated as such. Spread fire has a higher chance to hit but the damage caused is less. Fires at shore emplacements and aircraft are always considered to be concentrated. More than one firer at the same target cannot combine their FIR ratings.

C5. **DAMAGE EFFECTS**

A. Separate Damage tables are listed for Spread and Concentrated Fire Patterns. The damage is based on the pattern used and the FIR rating. Damage is expressed as: Crew impairment and/or Equipment impairment. Impairment effects will vary with the section hit. A high FIR may result in a critical hit roll. After a Spread pattern hit, a roll must be made to see which section suffered the most damage. If it indicates a gun section hit, take the number of gun sections and give them an equal chance to hit. Use either a d6 or d10 die. If extra number exist and are rolled, then roll again. If desired closer sections can be given an extra chance to be hit but decide on this option during setup. Destroyed sections cannot be given a chance to be hit.

B. Armor Protected Gun Sections. Gun sections in an enclosed turret are regarded as armor protected and were less affected by shrapnel and machine-gun fire. If a mix of unarmored and armored sections are on the target, then give extra chances to hit to the unarmored sections. Armored sections which are hit by a fire of FIR 4 or less are undamaged (bounced off) but are suppressed and cannot fire the next fire phase.

C. Cumulative Damage Effects. A crew section that is impaired three times is eliminated. An equipment section that is impaired twice is destroyed. Critical hits on gun or other weapon sections (torpedoes, mines, depth charges) sections have a 10% chance of causing an explosion. Explosions of a gun section with an FIR of 1

or 2 will destroy that section and crew. Other weapons and Guns with an FIR of 3+ will destroy the entire vessel.

D. Engine Section. Impaired crews assigned will have no effect on the engine. An engine with and eliminated crew causes the vessel to be unable to change speed. See rule A4. For Engine section damage effects. A critical hit in an engine section results in a fuel tank explosion that destroys the entire vessel.
E. Gun Sections. Impaired crews have a –1 TAD modifier. And impaired crew and/or equipment section has its FIR rating reduced by half. A section cannot fire if either its crew or equipment are destroyed.
F. Other Weapon Systems. Impaired crews or equipment will double reload time. Destroyed sections are non-functional for the rest of the battle.
G. Command Section. Impaired crews have no effect. Destroyed crews result in the vessel running wild (A12) until it exits the board, grounds, collides or a crew section is reassigned there. Four equipment impairments will destroy the Command section which causes the vessel to be unable to turn or change speed. It will move straight ahead until it exits the board, collides or grounds. For critical hits to this section roll a d6 and consult CHART U.

CHART U Critical Hit Damage Chart

Die Roll	Damage
1	Maximum angle of change is 1 hex-side per impulse
2	Maximum angle of change is 1 hex-side per turn
3-4	Radio, Sonar & Radar destroyed . No effect if none present
5	Fire Control & Commo lost. No Concentrated Fire pattern Allowed
6	Captain Killed, Crew Moral Reduced 1 level for the battle

H. Reassignments. Equipment cannot be reassigned. Only unimpaired crews can be reassigned. Reassignments are done during the Command Decisions phase. Ship class vessels are allowed two reserve crew sections for reassignments.

C6. GUN SECTION/ FIRE VALUE

Each gun has a fire value. The basic version will have all of a vessel's guns totaled into a single FIR, regardless of firing arcs. Advanced players will determine the vessel's FIR based on the guns in the firing arc used. Fire values will be reduced if damaged and the FIR will be recalculated. The values listed in CHART V are per gun barrel. So a Quad system will multiply the value by four.

CHART V GUN FIRE VALUES (PER BARREL)

Gun Type	Value	Gun Type	Value	Gun Type	Value
MMG &LMG	0.5	2pdr & 3 pdr	2	40mm & 47mm	4
HMG & .50	1	3" to 3.9"	3	50mm to 88mm	5
13mm	1	37mm & 6pdr	3	12pdr +	5
20mm & 25mm	2	4" to 4.7"	4	5" +	6

C7. FIRING ARC DEAD ZONES

Dead zones are measured from the center point of the vessel. In most cases a rear gun can fire into the bow hex-side and a bow gun cannot fire into the stern hex-side. The dead zones are determined during the setup and used to determine the gun section's firing arc.

Quick reference Sheet A

REVISED CHART R: MOVEMENT CODE CONVERSION TABLE

CODE >…….A…...B……..C…..…..D……..E…….F…..….G……..H
Knots……1-5…6-10…11-15….16-20….21-25….26-30….31-39….40+
Impulse MPs…. 4……8……..12……16……22……...26……..32……36

SPEED CODES
FULL/Evade….A….B….C….D….E….F….G….H
BATTLE……..A…..A….B…C…..D…E….F…..G
IMPAIRED…..A….A….A….B…..C…C….D….E

CHART T : TARGET ACQUISTION CHART
TAD Range Modifiers (Conversion Yards to Hex)
Close…1-10 hexes ; Normal….11-19 hexes ; Long….20-33 hexes ; Extreme…34+

Shooter >	Shore Bty	Aircraft	SHIP	BOAT
SMOOTH	6	4	6	3
CHOPPY	6	4	5	2
ROUGH	5	2	3	1
LAND/ Grounded	6	4	6	3
Aircraft target	5	N/A	4	2

TAD Modifiers

Firer:	Range Yds	Daylight/Flare = 0
Is Tired = -1	Close = +2	Full Moon = -1
Exhausted = -2	Average = 0	Partial Moon = -2
Has Radar = +3	Long = -1	Searchlight = -1
Evading = -2	Extreme = -3	Target is a Boaut = -2
Fired at same target last Turn = +2	Target Stopped = +2	Target Evading = -2

CHART S : DETERMINING FIRING PLATFORM STABILITY

Firing Unit	Condition	FPS		Firing Unit	Condition	FPS
Shore Bty	Always	Excellent		Ships	Rough	Average
Ship-Stop	Choppy	Average		All Vessels	Grounded	Good
Ship-Stop	Rough	Poor		All Vessels	Smooth	Excellent
Boats- Stop	Choppy	Poor		All vessels	Choppy	Good
Boats	Rough	Poor		Aircraft	Always	Good

Quick Reference Sheet B

FIRE RESOLUTION CHARTS

Determining the Fire Effectiveness rating (FER) (TAD compared to FPS = FER)

TAD >	0	1	2	3	4	5	6	7	8	9+
Poor	U	V	V	V	W	W	W	X	X	X
Aver	U	V	V	W	W	X	X	X	Y	Y
Good	U	W	W	X	X	X	Y	Y	Z	Z
Excellant	U	W	W	X	X	Y	Y	Z	Z	Z

Using SPREAD pattern Fire (Percentage Chance to Hit)

FIR >	0	1	2	3	4	5	6	7	8	9+
U	5	5	5	10	10	10	15	15	15	15
V	10	10	10	15	15	20	20	25	25	30
W	10	10	15	15	20	25	25	30	40	50
X	15	15	20	25	30	30	35	40	50	60
Y	15	20	25	30	40	45	50	55	60	70
Z	20	25	30	35	40	50	55	65	75	85

Spread pattern FIR Damage : Use A = FIR 0-3; B = FIR 4-6; C = FIR 7-8; D = FIR 9+

Spread pattern Hit Location

Die Roll		Die Roll	
0	Engine	6	Other Sections
1-3	Bow Gun Area	7-9	Hull
4-5	Stern Gun Area	Section Destroyed already	Change to Hull hit

Using CONCENTRATED Pattern Fire (Percentage Chance to Hit)

FIR >	0	1	2	3	4	5	6	7	8	9+
U	01	01	01	5	5	5	5	5	10	10
V	5	5	5	10	10	10	15	15	15	20
W	5	5	10	10	15	15	20	20	20	25
X	5	10	15	15	20	20	25	30	35	40
Y	10	10	15	15	20	25	30	35	40	50
Z	15	15	20	25	30	35	40	45	50	60

Converged pattern FIR Damage : Use A = FIR 0-1; B = 2-3; C = 4-5; D = 6-8; E = 9+

Fire Damage Results Table

Die >	1	2	3	4	5	6	7	8	9	0
A	CI	CI	CI	CI	CI	EI	EI	EI	EI	BI*
B	CI	CI	CI	CI	EI	EI	EI	EI	EI	BI*
C	CI	CI	EI	EI	CD	CD	ED	ED	BI	BI*
D	CI	CI	EI	EI	BI	BI	CD	CD	ED*	ED*
E	BI	BI	BI	CD	CD	ED	BD*	BD*	BD*	BD*

BI = Both Impaired; CI = Crew Impaired; EI = Equipment Impaired

BD = Both Destroyed; CD = Crew Destroyed; ED = Equipment Destroyed