PICKET DUTY - 2ND EDITION
KAMIKAZE ATTACKS AGAINST U.S. DESTROYERS - OKINAWA, 1945
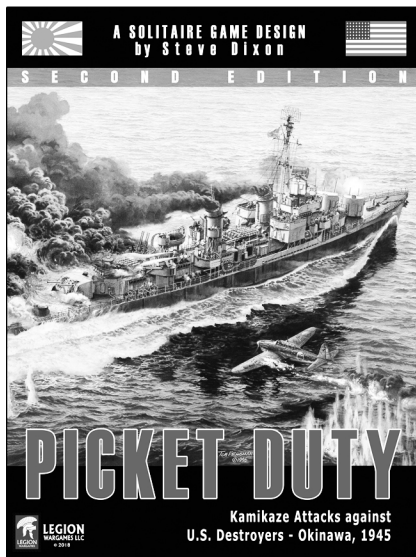
RULES OF PLAY

A SOLITAIRE GAME DESIGN by Steve Dixon

SECOND EDITION

PICKET DUTY

Kamikaze Attacks against U.S. Destroyers - Okinawa, 1945

The US Navy first faced Kamikaze attacks in October 1944, near the Philippines. By the time of the invasion of Okinawa in April 1945, the US Navy devised a plan to help ward off the expected kamikaze attacks during the battle for the island. In order to provide an early warning system for impending kamikaze attacks, the US Navy established 16 radar picket stations around the island. Destroyers manning these stations – in most cases – had a Fighter Direction Team to coordinate and call fighters to a station to combat incoming kamikazes. Despite these efforts, the kamikazes still managed to get through and inflict horrific damage to US ships.

The entire air-sea battle off Okinawa lasted until August, 1945. At least 21 ships were sunk (8 of them Fletcher class destroyers), and 194 ships suffered damaged ranging from minor to severe. Crew casualty figures range from 9,700 to 12,000 killed and wounded.

Picket Duty is a solitaire game where you, as the captain of a Fletcher Class destroyer, must protect the fleet and fend off kamikaze attacks while performing picket duty off Okinawa. The game covers the time period from late March 1945 to late June 1945. To win you must survive. Needless to say your task will not be easy.

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Ω - Advanced Rule not used in the Basic Game.

1.0 Components

The following items are included in the game:
- Tactical Map
- Counters – 5 sheets (160 x 1.2" + 240 x .6")
- Rule Book
- Charts & Scenario Book
- Player Aids – 4 sheets
    1. Ship's Log
    2. Time Sheet
    3. Firing Reference Tables
    4. Secondary Compartment Sheet Ω
- One 10- sided (d10) die + two 6-sided (d6) dice.

1.1 The Map

The upper half of the map contains tracks and boxes to indicate or track the following:
- Station Assignment & Surface Fire Support
- Air Fire Support and FDT availability
- Ship and Land based radar levels
- Ship morale level
- Current status of compartments & equipment
- Levels of the ship's fuel, ammo, hull damage, and maneuvering level
- Time of Day and Weather
- Gun Director Damage
- Damage Control Team assignments
- Flooding and List & Trim
- Japanese Waves and Special Attack aircraft

The lower half of the tactical map depicts a top down view of a Fletcher Class destroyer. The destroyer's armament consists of five 5" turrets, five 40mm gun tubs and seven 20mm gun mounts. From the bow, the five main 5" guns are numbered 1-5 and they have corresponding magazines shown above the destroyer – also numbered. The 40mm and 20mm guns also have magazines assigned to them.

Note: The 20mm and 40mm AFT magazines also supply the 40mm and 20mm guns in the Midship section, as well as those in the Aft section. Should the Aft 20mm and 40mm magazines be lost, the 20mm and 40mm guns in the Midship section as well as those in the Aft section may no longer fire.

Surrounding the destroyer are eight bearing areas depicting angles from 0 to 315 degrees. Japanese planes are placed here when called for during Japanese attack sub-phases.

1.1.1 Compartments & Equipment

A. There are two types of compartments: Primary (located on the map) and Secondary Ω (located on a separate sheet (See Rule 1.7).

The Primary compartments are located in three sections of the ship, labeled as:
- Forward - Repair Section 1
- Midship - Repair Section 2
- Aft - Repair Section 3.

B. A blue background in the compartment name indicates it can be flooded due to damage or to correct trim and list.

C. Equipment consists of the 5 in. and 40mm gun directors (also called gun controllers), and shipboard radar.

1.2 Map Tracks & Boxes

1.2.1 Tracks

There are five (5) tracks on the map that are used to record the level of damage to the destroyer, the expenditure of ships stores and its ability to maneuver.

1. Ammo Supply – records the amount of ammunition remaining. When the track reaches "0" you are out of ammo and must return to anchorage for replenishment.

2. Hull Integrity – records damage to the hull during the game. When it reaches zero your ship may sink.

3. Maneuvering – records the ship's ability to maneuver. As the ship takes damage in certain areas, it loses the ability to maneuver.

4. Fuel Supply – records the amount of fuel remaining. When it reaches "0" you are out of fuel and must return to anchorage for replenishment.

5. Flood Track – records the amount of flooding your ship has incurred.

1.2.2 Boxes

Assignment Station - indicates the radar picket station your ship has been assigned to. Also holds any Surface Fire Support markers available to the player.

Time of Day Box - indicates the Time of Day for each phase of a game turn: morning (0400 – 1200); midday (1200 – 2000); night (2000 – 0400).

Weather Box - indicates weather status for the current phase. (See Rule 6.1 and 6.2)

Air Fire Support - holds the FDT status modifier chit (See Rule 5.1), and the Carrier Based and/or Land Based Air Support markers available (See Rule 6.4).

Ship Morale Box - records the current morale level on the ship. (See Rule 8.1)

Land Radar Activation Level Ω - records the current level of land based stations (See Rule 5.3)

Ship Radar Level - records the current level of your ship's radar (See Rule 5.3.1).

List & Trim Ω - as the ship takes damage and compartments are flooded, the ship will begin to list and/or lose trim. The display records listing to port and starboard, and bow and stern trim (See Rule 7.4).

Gun Directors Damage Box -- Record damage to gun directors here.

Repair Sections One, Two and Three - Mark damage to your destroyer here.

Damage Control Box -

Primary Compartment section: Damage repair crews are placed here when not assigned to damage control work.

Secondary Compartment section: Repair crews are placed here to repair secondary compartments (See Rule 7.9).

Water Line section: Water Line hits are recorded here. (See Rule 7.12).

Japanese Attack Waves Box - Regular and Special attack plane counters are placed here after draw.

1.3 Crew Counters

1.3.1 Officers and Petty Officers

A. There are five officers and one Chief Petty Officer. For game purposes, all are considered Key Officers. Key Officers use their value (determined at the start of a scenario or campaign - See Rule 2.0.A) to assist with designated functions during the course of the game:

Captain – his chit value is used to modify a morale check at the end of each turn and when performing Emergency Maneuvers as well as declaring emergency repairs.

Executive Officer – his chit value is used to modify damage repair attempts in one compartment only.

Engineering Officer – his chit value is used when attempting Emergency Maneuvers, and for repair attempts in certain compartments.

Gunnery Officer - his chit value is used when determining hits on Japanese planes during the defensive fire phase.

Damage Control Officer – Applies his chit value to all repair attempts in one section only.

Chief Petty Officer - His chit value is used for morale checks at the end of each turn.

1.3.2 Damage Control Teams

A. Damage Control Teams consist of three Repair Chiefs and their corresponding team. Each team consists of a fixed number of men: Repair One - 14 crew counters; Repair Two - 10 crew counters; and Repair Three - 13 crew counters.

B. Repair Chiefs 1, 2, and 3 are the respective leaders of their section – represented by the number on the marker. Their chit values are used when attempting repairs in their respective sections (See Rule 7.6.H).

1.4 Markers and Chits

Damage Markers: There are five types of damage markers represented: Hit (ship and Kamikaze), Fire, Flooded, and Destroyed.

Track Markers: The five track markers indicate ammo supply, fuel supply, hull integrity, maneuver capability of the ship and flooding.

Target Markers: Each weapon on the ship has a specific target marker. 5" guns have additional markers for the Mk 37 Controller used in the Advanced Game.
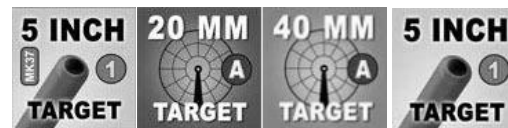
Time of Day and Weather Markers: Track time and weather for each phase.

Deck Fire Marker: Indicates the level of deck fires present in each section.

FDT Present Marker: Indicates whether you have a Fighter Direction Team assigned to your ship.

Ω Land Radar Active Marker: Land Radar becomes eligible for activation on the dates indicated on the Time Record Sheet starting on April 21. (See Rule 5.3)

Ω List &Trim Markers: Indicates severity of list & trim. Values are interchangeable; example - a 5 marker can replace a 2, 2 & 1.

Morale Marker: Indicates the current state of the crew's morale.

Ship Radar Status Marker: Indicates the current status of ship radar.

Station Marker: Used to indicate the radar picket station your ship has been assigned to man.

Value Chit: Drawn to determine the value of certain functions of the ship and crew ranging from -2 to +2.
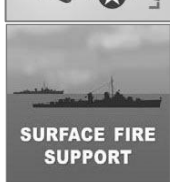
Kamikaze Marker: Used to denote Kamikaze attacks. Note: The red circle, with a bomb, torpedo, or Ohka, denotes a Special Attack aircraft (See Rule 6.5).

Spray Fire Marker: Used only in Special Attacks (See Rule 6.8).

Air Fire Support Marker: Air Fire Support markers are Land Based or Carrier Based, and can be used during day and night phases.

Surface Fire Support Marker: Used to indicate availability of surface support at your assigned Picket Station.

1.5 Ship Log Sheet

The Ship Log is used to personalize your ship and crew, and to help keep track of important damage to your ship, note Japanese planes shot down and from which side they hit the ship.

1.6 Time Record Sheet

The Time Record Sheet keeps track of each turn as the game progresses. It is also indicates when Land Radar Stations may become available for activation (date in green) and when Kikusui attacks occur (date in red). Dates available to be played in Design-Your-Own scenarios but outside the regular game scenarios are marked in yellow.

1.7 Ω Secondary Compartment Sheet

The Secondary Compartment Sheet is used to keep track of damage to secondary compartments. There are two boxes shown in each compartment on the sheet. The left box is checked when the compartment is "damaged" (first hit) and the right box is checked when the compartment is "destroyed" (second hit).

2.0 Game Set Up

A. Lay out the map and counters on a large table. Place the Value Chits numbered -2 to +2 in an opaque cup. Mix the Value Chits well and draw a Value Chit and record the value of each on the Ship Log Sheet in the space provided for each of the Key Officers: Captain (CO), Executive Officer (XO), Engineering Officer, Gunnery Officer, Damage Control Officer, Chief Petty Officer and each of the Repair Chiefs. Return the chits to the cup once the values have been noted.

B. Place the Officer Crew counters on their respective starting compartments. The Captain starts the game on the bridge and stays there. The Executive Officer also starts on the bridge but may move as needed. The Gunnery Officer and Damage Control Officer start the game in the CIC compartment. The Engineering Officer may start the game in either the Forward or Aft Engine Room.

C. The Chief Petty Officer may be placed in any Primary compartment at the start of the game. Repair chiefs and repair crew counters are set up in their respective sections in the Damage Control Area located at the top center of the map.

D. Once the game commences, all officers (except the captain) may move to other compartments as needed for repair purposes. This movement is done before repair attempts are made.

E. Prepare the Kamikaze Pool. Choose one each of the following Special Attack aircraft (those with a red circle in the upper left of the counter) and set them aside in the event a Random Attack is called for on Table 8.2: 1 Sally, 1 Betty, 1 Peggy, 1 Jill, 1 Grace, 1 Judy, 1 Kate, 1 Myrt, 1 Val and 1 Zero. Place the remaining Kamikazes and all Japanese Attack Ends counters in a large opaque container. Note: The Sonia is not put aside, all Sonia counters go into the container.

F. Place the Hit, Fire, Deck Fire, Flood and Destroyed markers in separate piles nearby. You will be using these throughout the game to mark damage on your ship and Kamikazes.

G. Place the Flood, Hull Integrity, Maneuver Capability, Fuel Supply and Ammo Supply markers on the "10" space of the appropriate track. The color coding is a quick visual cue for the player – green is optimum status, yellow is caution and red is critical. The Land Radar marker is placed in the "0" space on the Land Radar Activation Level track. Note: Land Radar is only used in the advanced game (See Rule 5.3).

H. Ω Place List/Trim Counters near the List & Trim Flooding Box located near the top right of the map. They will be used when your ship starts to list and/or loses trim. If using the Listing and Trim rules, the ship begins the game at an "Even Keel." During the basic game, the ship is always at an Even Keel.

I. Place the Morale Marker in the "0" position on the Morale track.

J. Each 5 in. gun turret, 40mm gun tub, and 20mm gun mount on the ship is either numbered or lettered. There is a corresponding Target Marker for each one. These markers are placed on Kamikazes during the destroyer's defensive fire phase. The markers may be placed directly on top of the guns they belong to until enemy planes are targeted, or they may be set aside until needed.

K. Using the Ship's Log Sheet, give your ship a name and name your officers. If you wish to use historical names of Fletcher Class destroyers that participated in the Okinawa campaign, a list has been provided following the rules section.

L. Decide whether you will play a scenario, mini-campaign or the full campaign (See Rule 12).

3.0 Sequence of Play

A. A game turn is comprised of the following phases: morning (0400 – 1200); midday (1200 to 2000) and night (2000 – 0400) and one end of turn maintenance phase. Once these phases have been played, mark off the corresponding day on the Time Record Sheet. See detailed sequence of play at end of rule book.

B. Each phase is further divided into sub-phases as follows:

- Determine Weather (See Rule 6.1 or 6.2 or 6.3)
- Determine Air Fire Support (See Rule 6.4)
- Determine Japanese Kamikaze Attacks (See Rule 6.5)
- Defensive Fire (See Rule 6.7)
- Special Attacks, if any (See Rule 6.8, 7.2)
- Emergency Maneuvers (See Rule 6.9)
- Hits & Damage Determination (See Rule 7.0)
- Damage Control Crew Placement (See Rule 7.7)
- Damage Control Resolution (See Rule 7.8)

C. End of turn additional phases:

- Maintenance – morale, ammunition supply, fuel supply, (See Rule 8).
- Replenishment or Repair – determine refit time if applicable (See Rule 9)
- Proceed to next turn, or end of game (See Rule 10).

4.0 Duty Station

A. If playing a scenario, your duty station has been pre-assigned. If not, determine your duty station by consulting Tables 1-1 for the Basic Game or 2-2 through 2-4 for the Advanced Game. You will remain on this assigned station until sunk, forced to retire due to damage (See Rule 9), or reassigned.

5.0 Fighter Direction Team, Surface Fire Support, Land Based & Ship's Radar

5.1   Determining Fighter Direction Team

A. Consult Table 3-1 to determine if a Fighter Direction Team (FDT) is assigned to your ship. If a FDT is assigned, place the FDT counter on the space on the map.

B. If a FDT is assigned, shift one (1) column to the right when determining Japanese attacks on Table 8.1. If no team is present, shift one (1) column to the left. (See Rule 6.5.B)

C. If an FDT was lost during combat, or your ship is in for repair and did not initially have an FDT assigned to it, roll on Table 3.1 to determine if you are assigned a FDT. If the ship is in for replenishment, do not roll for an FDT.

D. Roll for an FDT if you are assigned to a new duty station or you are assigned a new ship.

5.2   Surface Fire Support (SFS)

A. Surface Fire Support availability is determined by using Table 4-1. Roll two d6 dice to determine the number of SFS markers you will have available during the Defensive Fire phase (See Rule 6.7).

B. If no SFS is available, then there is a two column shift to the left when determining if Japanese attack. For each SFS marker available to the player, there is a one column shift to the right on Table 8-1 Japanese Attack Table (See Table 8-1 for all column shift modifiers).

C. Each available SFS marker may be placed either on a Japanese plane in a regular Wave Attack (Rule 6.5) or on a Japanese plane in a Special Attack during a wave (Rule 6.8). Each marker is only used once during each wave.

Example: If a player has two SFS markers available and he is being attacked by two planes in a bearing position and one plane in a special attack, the player has several options for placement: he may place a SFS marker on each plane in the bearing positions; or one marker on a plane in a bearing position and one on the special attack plane; or both SFS markers on one single plane.

D. SFS markers placed on Special Attack planes are resolved per Rule 6.8.D.

E. Once SFS availability is determined it will remain the same throughout your tour at the assigned duty station, unless SFS markers are lost due to combat (See Rule 5.2.G).

F. If a Japanese plane targeted by a SFS marker is shot down (flamed or destroyed) before the SFS marker is used, the marker is considered expended and may not target another plane until the next wave.

G. Should a SFS marker be lost due to Japanese attacks, at the beginning of the next turn -- not phase -- after the marker was lost, draw a Value Chit. If the number is negative or 0, the marker is not replaced. If the number is positive, the marker is replaced. This procedure is done only once; it is not repeated in the following turns the ship remains on station, unless another SFS marker is lost.

H. If you are assigned to a new duty station or you continue combat with a new ship, then Surface Fire Support availability is determined again. In other words SFS is determined only when your picket duty station is determined, or per rule 5.2.G above.

5.3   Ship Radar
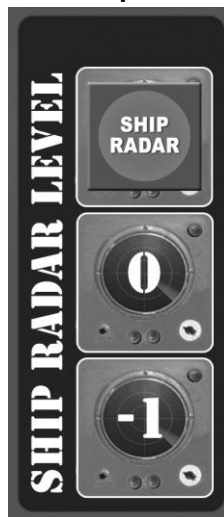
A. At the start of the game your ship has two onboard radars – surface search (SG) and air search (SC). These are designated as SG and SC on the damage tables.

B. When both radars are working, a one column shift (+1) to the right is used when determining if Japanese planes attack on Table 8-1.

C. If one ship board radar is damaged or if both are damaged, there is no column shift (0) on Table 8-1.

D. If one or both radars are destroyed, or if one is damaged and one destroyed, a one column shift (-1) to the left is used when determining if Japanese planes attack on Table 8-1.

E. Place the ship radar marker on the appropriate ship radar strength box (at start +1) located in the Ship Radar Level box on the map. During the course of the game, this value will change as the radars take damage or are repaired. The Ship Radar Level track is adjusted at the time the damage occurs during the phase. (Example shows both radars working with the marker in the +1 position)

F. If both ship board radars are destroyed, the ship must return to anchorage at the end of the current phase for repairs (See Rule 9.G).

5.3.1 Ω Land Radar

A. Land based radar is not used in the basic game. It is only used in the advanced game.

B. Activation is determined at the beginning of a turn and prior to weather determination.

C. Land based radar stations may become active on the following dates: 4/21 Hado, 4/23 Ie Shima, 5/10 Zamani, and 6/08 Naganni -- indicated by the green colored dates on the Time Record Sheet.

D. To determine if a land based radar station becomes active, consult Table 5-1. If the station is not activated, continue rolling on following turns until activated.

E. As Land Radar stations become active, adjust the Land Radar Activation Level track to match the number of active Land Radar Stations. The "Value" number underneath the spaces indicates the number of column shifts when determining Japanese attacks on Table 8-1. If a station later becomes inactive due to a random event, decrease the track and the number of column shifts accordingly.

F. Should a land based radar station become inoperable due to a random event, then the column shift on Table 8.1 also changes when determining future Japanese attacks.

In the example above, there are three land radar stations activated, and they have a value of 2, indicating a 2 column shift to the right on Table 8.1.

6.0 The Phases: Morning - Midday - Night

6.1 Weather – Basic Game

A. In the basic game, the weather is always considered clear. Do not roll for weather.

6.2 Ω Weather – Advanced Game

A. In the advanced game, weather is always considered clear for the first phase of Turn 1. Weather is also clear for the first phase upon return from replenishment or repair. Weather is checked starting with the second (midday) phase of that turn.

B. Roll 2d6 dice using Table 6-1 to determine the weather.

C. If the previous phase's weather was Rain or Storm, subtract 1 from the current roll.

D. Place the weather marker on the matching space on the map.

E. If the result is Clear, play proceeds to the next sub-phase – determining Air Support.

F. If the result is Rain, roll 1 d6 die: If the result is 1 – 4, the Japanese do not attack and play proceeds to the next phase. If the result is 5 – 6, Japanese attack and play proceeds to the next sub-phase – determining air support. If the result is Rain and Japanese do attack, a one (1) is added to the die roll when determining how many Japanese planes attack. It does not affect column determination.

6.3   Ω Weather – Advanced Game: Storm

A. If the weather result on Table 6.1 is Storm, there is a possibility that your ship could be damaged or sunk. Continue rolling using Tables 6-2 through 6-5 to determine the fate of your ship.

B. The following results are possible when rolling for typhoon damage.

1. Mark off "X" days on calendar: for example – the date is April 1 and you roll a 1 on Table 6-3 resulting in a delay of 2 days.

2. If the ship is damaged during a Typhoon (a roll of 6 on Table 6-3), the player rolls on Table 6-4. The ship could sink as a result of the extreme weather or suffer damage to the hull.

3. If the ship sinks, the player resumes regular play on the day after the Typhoon ends with a new ship, crew, and duty station. In effect, go through the procedures as if starting a new game (See Rule 4.0).

4. If the ship returns to anchorage, roll on Table 6-5 to determine the number of days to mark off on the calendar – the time it takes for repairs.

5. After repairs – a new duty station is determined, as well as air cover, surface support and replacing lost crew (See Rule 4.0). See Rule 5.1.C and D for Fighter Direction Team.

6.4 Air Fire Support (AFS)

A. Tables 7-1 through 7-3 are used to determine Air Fire Support availability at the beginning of each phase. AFS is carrier based, land based or both.

B. Roll 2d6 under the appropriate date on Table 7-1 to determine the type of air support for the phase.

C. For each type of AFS a player has (land and/or carrier based), pick a Value Chit and note the value. Return the chits to the cup once all values are noted.

D. Based on the Value Chit(s) drawn in 6.4.C, roll 2d6 for each chit drawn on Table 7-2, cross referencing the result with the column based on the chit draw. The resulting number is the number of AFS markers of each type the player receives. These act as extra gun markers and work the same as SFS markers (See Rule 5.2 & 6.8), with the following exceptions.

E. Each AFS marker may be placed on any Japanese plane only *once per phase*; this includes Special Attacks. Keep in mind a Japanese attack can be comprised of 1 to 3 waves. For each AFS marker assigned to a plane, roll one d6. If the result is a 1-5, the result is a miss. If it is a 6, the Japanese plane is destroyed and removed from the map.

F. When placing AFS markers on Special Attacks, resolve these attacks per Rule 6.8 & 7.2.

G. If a Japanese plane is shot down before an AFS marker is used; the marker may be reassigned to another target if available.

Example: 2 AFS markers are assigned to attack a Zero at 180 Low. The first roll is a 6, shooting down the Zero. The second marker can now be reassigned to another Japanese plane if available.

H. If no air cover is available, then a two (2) column shift to the left is used when determining if Japanese attack on Table 8.1.

I. During Kikusui attacks only, the player rolls on Table 7-3 to determine the number of Air Fire Support counters a player may receive.

J. The value chit drawn for each available Fighter Support type (land or carrier) provides a column shift equal to its number when determining Japanese attacks (see Table 8.1). A positive number denotes a shift to the right; a negative number denotes a shift to the left.

6.5 Japanese Kamikaze Attacks

A. The process to determining Japanese Kamikaze attacks is done in two steps.

B. Sum the applicable modifiers listed below Table 8.1. Use this result to select the appropriate column on Table 8.1, and cross reference the value with the dice roll to determine which Attack Table is used. Once the column is determined, roll 2d6.

C. The following modifiers are added or subtracted from the dice roll for Table 8.1: Rain adds +1 to the dice roll, and a player's assigned duty station may affect the die roll. See the notes under Table 8.1.

D. If a random result is obtained (RR) when rolling for Japanese attacks, roll on Table 8-2. Attacks from this roll are considered Special Attacks (See Rule 6.8).

Example: As an example, let's assume clear weather, a FDT onboard (+1), all shipboard radar is working (+1) and AFS, land only, (value of +1). There is no SFS available so the value is (-2). Adding all modifiers results in a 1, so we use the "1" column under Table 8-1. Rolling 2d6, we obtain a 6 and subtract 2 for picket station #1 giving us a 4. Cross referencing the final result (4) under the "1" column reveals a letter. This letter refers to the Chart to use to place Japanese planes on the bearing positions. In our case it is the letter "D".

E. Next consult the appropriate lettered table and roll 2 d6 dice. No modifiers are used.

F. The number rolled will tell you how many planes attack, at what bearing position, and at what altitude (H – High, M – Medium, L – Low). You will then draw Kamikaze markers randomly from the Kamikaze container, matching the first marker drawn with the first bearing/altitude on the list, etc. Note that you may draw more markers than listed because of Special Attack aircraft, or stop due to an Attack Ends chit.

G. Depending on the number of planes, Japanese planes will attack in waves. Consult Table 8.3 to determine the number of waves and the number of planes in each wave. If more than one wave is attacking, place the planes in the first wave directly on the map and the planes in the remaining wave(s) in the appropriate Wave Box(es), noting each plane's bearing/altitude on your ship's log or an extra sheet of paper.

H. Wave attacks may be composed of two types of planes: plane counters with no special attack symbol (Regular Waves) and plane counters with a special attack symbol (Special Attack Planes.)

I. The special attack symbols (red circle) are an Ohka, torpedo and a bomb. The symbol is in the top left corner of the special attack plane counter.

J. If a Japanese plane drawn features a Special Attack symbol; place the plane in the special attack box on the map. Continue picking Japanese planes until the original number of Japanese planes as determined by Rule 6.6.F is fulfilled.

K. No more than two Japanese planes can be placed in the Special Attack box per wave. If there is only one wave attacking, special attack planes drawn in excess of two are ignored; if two waves are attacking, special attack planes drawn in excess of four are ignored; if three waves are attacking, special attack planes drawn in excess of six are ignored.

When drawing Special Attack planes, the first two Special Attackers are placed in the special attack box for the first wave, the second two special attack planes are placed in the special attack box for the second wave, and the third set of two special attack planes is place in the third wave special attack box. Consult Table 8-3 Fighter Waves for special attack planes allowed per wave.

In this example the player is attacked by 5 aircraft, which as per Table 8.3 are broken down into two waves – 3 AC in the first wave and 2 AC in the second wave.

During the course of picking his AC he drew 3 Special Attack aircraft. Standard aircraft for the 1st wave are placed on the map, while the remaining two are placed in the attack aircraft space next to the 2nd wave icon. The first two special attack aircraft are placed in the special attack space next to the first wave icon. The last special attack plane is placed in the special attack space next to the 2nd wave icon.

L. Each complete wave is composed of regular (non-symbol) planes attacking first and then Special Attack (red circle) planes attack second. Regular wave attacks and special attacks are handled differently (See Rules 6.7 and 6.8).

After each complete wave attack, repair crews are placed and damage resolved before the next wave attack. The wave attack sequence is this: Regular Wave Attack #1, Special Attack #1, damage assessment, repair crew placement and repair attempts; Wave Attack #2, Special Attack #2, etc.

M. During a night phase Japanese attacks decrease, including Kikusui attacks. When determining if Japanese attack during a night phase, roll one d6 die. On a roll of 1-4, no attacks occur. If the roll is 5 or 6, Japanese attack as normal but with the number of planes reduced by 50%, round fractions down (i.e., ignore the last half of the list rolled on the Attack Table).

N. If an "Attack Ends" marker is drawn at any time during the phase, no Japanese attacks occur. Japanese planes, including Special Attack planes, already drawn are returned to the container.

O. The Attack Ends markers -- once drawn -- are not returned to the container until your ship, or your new ship, is assigned a new duty station. At that time all Attack Ends markers are placed back into the container.

6.6 Ω Japanese Kamikaze Attacks – Kikusui

A. Kikusui or "Floating Chrysanthemum" raids were large scale, multiple wave operations involving hundreds of individual attacks by the IJN and the IJA. They focused on radar picket destroyers and were particularly effective. During the course of the Okinawa operation, the Japanese launched 10 of these raids. Dates which these attacks occurred are marked in red on the time record track.

B. Kikusui attacks only occur in the advanced game during a campaign or if stated on a scenario card. When Kikusui attacks occur, they occur for all phases of the turn.

C. When a Kikusui attack occurs, the placement of Japanese planes is determined by consulting Table 22 and 22-1.

D. To determine the number of air support fire markers a player receives during a Kikusui attack, consult Table 7.3.

E. Roll two d6 dice using Table 22 as a reference. Cross reference the roll with the result column. The number in the result column determines how many planes attack your ship.

F. To determine the number of waves see Table 8.3.

G. As each plane is picked, use Table 22-1 to determine the bearing of each plane for each wave. Place the first wave planes in the bearing positions on the map, and place 2nd and 3rd wave planes in the Attack Aircraft space next to the appropriate wave on the Japanese wave track.

H. If a plane is picked with a Special attack symbol, it is ignored and placed back into the container. Another plane is picked to replace it.

I. Once all Japanese planes have been placed, play reverts to the normal regular wave Defensive Fire -- Kamikaze Attack -- Damage Determination sequence.

6.7 Defensive Fire

A. Once Japanese planes for a wave have been placed in their bearing locations on the map and special attack planes placed on the special attack circles in the Japanese Attack Waves Box, the player can now assign his guns, AFS, SFS markers to fire at the regular wave attackers.

B. Defensive fire is repeated for each wave, with modifiers affecting gun performance from damage sustained in previous waves applied.

C. In the basic game, any 5 in. gun may target any Japanese plane, as long it is able to fire in the designated bearing where the fighter is located.

1. Ω In the advanced game, 5 in. guns are controlled by a single gun controller (the MK37) to increase their chances of hitting a targeted plane. The player decides which 5" guns are slaved to the M-37 Director. The slaved 5" guns get the +1 bonus to the die roll as mentioned in the notes to Table 9.2 US Defensive fire table - 5" Guns. As such, all 5 in. guns firing into any one bearing position may target only one (1) Japanese plane in that designated bearing position. All slaved guns must be able to fire into that bearing position. Place the target marker designated for the slaved turret/s labeled with "Mk 37" on the Japanese target. (Refer to the Firing Reference Chart).

See examples at:
http://www.stevenkdixon.com/PD_example-of-play_V3_online.pdf".

2. If a 5 in. gun is unable to fire at the target with the gun controller, it may target a plane in a different bearing manually by placing its target marker without the Mk37 designation on the plane. In this case, the firing bonus for the gun is not used when determining if Japanese planes are shot down.3. In the basic and advanced game, if the 5 in. gun controller becomes damaged or destroyed, the firing bonus for all 5 in. guns is lost. If the gun controller is damaged, it may be repaired; if successful the firing bonus is immediately restored.

D. Each 40mm gun tub has its own gun controller. If the gun controller for a specific 40mm gun tub is damaged or destroyed, the firing bonus for that gun tub is lost. If the gun controller is damaged, it may be repaired; if successful the firing bonus is immediately restored.

E. The 20mm guns were manually fired. They have no gun directors, and no bonus.

F. Damage for gun directors is tracked on the Gun Directors Area on the map.

G. Each gun can only fire into certain specified bearing positions. To see which gun can fire where, consult the Firing Reference Chart (FRC) Exception: Surface Fire Support markers may be placed on any plane in any clock position. The Surface Fire Support marker may be used on one plane in each regular attacking wave or its associated special attack if desired. Air Fire Support markers may be placed on any one plane in any one wave or special attack (See Rule 6.4.E).

H. Ω Advanced game only: Guns are further restricted from firing if the ship reaches a certain list/trim angle (See Rule 7.4).

I. A gun mount or turret can only fire at one plane in any one bearing position that it can fire into.

J. A Japanese plane can be targeted more than once but the ship's defensive fire must come from different turrets or mounts and must be able to fire at the bearing the Japanese fighter is located in.

K. A Japanese plane can receive a result of Hit, Flamed, or Destroyed on Table 9-2 US Defensive Fire Tables.

- A Flamed Japanese plane will attack the ship under the "Shot Down – Flamed" column on Table 10 Japanese Hit Table.
- A "Destroyed" plane is removed from the map and does not strike the ship.

- If a Japanese plane receives 0-1 hit, it attacks the ship under the "Undamaged" column on Table 10.
- If it receives 2 hits, use the "Damaged" column on Table 10.
- Should the plane accumulate 3 hits, it is considered flamed and uses the "Shot Down – Flamed" column on Table 10 to strike the ship.

Once a plane receives 3 hits, it can no longer be targeted. Guns assigned to the targeted plane that have yet to fire are considered expended and cannot target another plane.

L. Place a Target Marker for the appropriate turret on the target plane. The number or letter in the top right corner of the marker identifies the turret or gun mount.

M. The player rolls 2 d6 dice for each gun firing in the bearing position to determine the result of the gun fire. Use Table 9-2 US Defensive Fire Table for each specific gun type. Place hit counters or shot-down flamed counters on attacking planes as hits are scored.
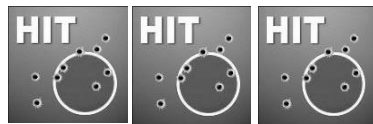
AFS And SFS Combat Resolution

N. Place any available Air or Surface Fire Support markers you wish to use in the current wave, be it a regular wave or a special attack wave. Then resolve AFS attacks, followed by SFS. For each Air and Surface Support fire marker assigned to a plane in a wave, roll one d6. If the result is a 6, the Japanese plane is destroyed and removed from the map. Any other result is a miss. Each AFS marker can only fire once per phase, NOT once per wave.

O. After completing the regular wave US Defensive fire, leave any un-destroyed Japanese plane counters with their hit counters and shot down - flamed markers in their respective bearing positions and move on to the Special Attack placement and combat resolution.

6.8 The Special Attacks - US Defensive Fire

A. Planes designated for Special Attacks represent aircraft that have slipped through the destroyer's defenses without being targeted and as a result have surprised gun crews with gun directors occupied with other targets.

B. For each Special Attack plane attacking, determine which section of the ship the plane may hit by rolling 1D6 for each plane attacking: if 1-2, Forward Section; 3-4, Midship Section; 5-6, Aft Section. Place each special attack marker in the designated section.

C. Once the section to be attacked by each plane has been determined, place that section's Spray Fire marker on the attacker. If two planes attack from the same section decide which one will receive the spay fire marker. The second plane receives a "free pass" unless you held out an AFS or SFS marker to deploy during the Special Attacks.

D. Defensive fire during Special Attacks is completed in the following order: 1. Air Support, 2. Surface Support, 3. Ship Spray Fire.

E. For each Air and Surface Support fire marker assigned to a special attack plane, roll 1D6. If the result is a 6 the Japanese plane is destroyed. Any other result is a miss.

F. For the section's spray fire marker, roll 2d6. If the roll is 1-7, the plane is destroyed. A roll of 8-12 and the plane continues its attack. If the plane is destroyed, the special weapon it is carrying is also destroyed and removed from the map. They do not strike the ship.

G. The first time Spray Fire is used during Special Attacks in any phase of the turn, immediately decrease the Ammo Supply by one box. If Spray Fire is used again after its initial use in another phase in the same turn, do not decrease the Ammo supply again. In other words, Spray Fire costs one ammo box per turn. (For example, if you're using Spray Fire in the Mid-Day phase and you also used Spray Fire earlier in the AM phase; do not check off another ammo box.)

H. Targeting planes making Special Attacks is always optional. A player is never required to do so.

I. Leave any surviving Special Attack plane markers on the map for reference during the ship damage determination portion of the turn. Move on to Emergency (Evasive) Maneuvers.

6.9 Ω Emergency (Evasive) Maneuvers

Emergency Maneuvers are preformed after defensive fire is resolved but prior to determining if Japanese planes hit the ship. Emergency Maneuvers are preformed ONCE for the PHASE and the result is used in ALL wave and special attacks to follow in that phase.

A. Emergency Maneuvers cannot be performed if any of the following has occurred:

- Rudder is damaged or destroyed
- Steering room is damaged or destroyed
- Both engine rooms are damaged or destroyed
- No fuel remaining on the fuel track
- No maneuver points remaining
- Both propeller shafts bent or destroyed
- Both stacks damaged or destroyed.

B. At the player's discretion, the ship may try to perform Emergency Maneuvers to throw off incoming Japanese planes only once per phase. If successful, the bonus the destroyer gains is effective for all wave attacks and special attacks in the phase in which the attempt was made. Reduce fuel level on the Fuel Supply track by one (1) towards 0 for the attempt made during the phase.

C. Emergency Maneuvers are performed after defensive fire is resolved but prior to determining if Japanese planes hit the ship.

D. To determine if an emergency maneuver is successful, perform the following: Add the values of the Captain (if alive) and the Engineering Officer (if alive). If both are dead, the value is -2. This number determines the column to use on the Emergency Maneuver Table (Table 19). Roll two d6 dice and cross reference the result with the appropriate column.

E. If the result is successful, rolls on Table 10 to determine if Japanese planes strike the ship will have one (1) subtracted for all wave attacks in a phase.

F. Whether an emergency maneuver is successful or not, decrease the Fuel Supply by one space. This is done for each phase that Emergency Maneuvers are attempted in the turn. A maximum of three (3) fuel levels are deducted if Emergency maneuvering is attempted in the Morning, Mid-Day and Night phases.

7.0 Determining Japanese Hits

7.1 Wave Attacks

A. For each Japanese plane counter left on the map after resolving US Defensive Fire consult Table 10 to determine if Japanese planes strike your ship. Use the appropriate column depending on the status of the Japanese plane -- Undamaged, Damaged, or Shot Down – Flamed.

B. Roll 2 d6 dice and cross reference the result with the appropriate column in Table 10. If an Emergency maneuver was successful, apply the -1 modifier to the die roll on Table 10.

C. If a hit is obtained, consult Table 11 (Main Damage Table) to determine damage. Any Japanese plane that hits the ship automatically starts a deck fire in the section hit, in addition to any other damage determined by the player. Note that in some cases two deck fire markers will be placed – one for hitting the ship and one if determined by the damage tables. Consult the appropriate attack bearing section of Table 11 that the plane attacked from, then roll 2 dice (1-d10 and 1-d6) TWICE (See Rule 7.3 Advanced Game Damage results). Exceptions: if the plane that hit the ship is a twin-engined bomber, roll three times. If using the Willow optional rule, roll once for the Willow. To determine where damage has been inflicted, the d10 die is used for the left-hand column and the d6 die is used for the top row.

Example: If the Japanese plane hits the ship from the 315, 0, or 45 bearing, use the section in Table 11 titled "FORWARD SECTION"; if the plane struck the ship from bearing 270 or 90, use the section titled "MIDSHIP SECTION"; if the plane struck the ship from bearing 225, 180, or 135, use the section titled "AFT SECTION".

D. If a random result is obtained on Table 11, consult Table 15.

E. For both the basic and advanced game, all effects from damage are applied immediately. If the damage forces the ship to return to port, the ship returns to port at the end of the current phase.

F. Repairs are not attempted until regular and special attacks for each wave have been resolved. (See Rule 7.8).

G. If a near miss is obtained, consult Table 11.1 (Near Miss Damage Table) to determine damage.

H. In all cases, Japanese planes are placed back into the Kamikaze pool (except special attack planes) once the result of the attack is known.

I. Once the Regular Wave Attack has been resolved, the player then resolves Special Attacks assigned to that wave.

7.2 Determining Japanese Hits - Special Attacks

A. Ω If evasive maneuvering is successful, apply the modifier when determining if Special Attacks hit the ship. (See Rule 6.9)

B. For each plane in the special attack box that survived the defensive fire rolls in (Rule 6.8) above, roll on Table 12. Consult the type of weapon it carries to determine which Table to use: Table 12.1 (Ohka), Table 12.2 (Bomb) or Table 12.3 (Torpedo), then roll 2d6 and apply the result, if any, to the destroyer.

C.   It is possible that the plane launching the special weapon may also attempt to hit the destroyer. For each Japanese plane that survived, roll 1 d6 die. On a result of 1-4, the plane does not attack. If the roll is a 5-6, it attacks the ship per footnote B of Table 10. When attacking, use the Special Attack Column on Table 10, after resolving the damage from its special attack weapon per Rule 7.2.B.

D. Results of these Special Attacks are applied immediately.

E. Japanese planes used in Special Attacks are not placed back in the container. They are removed from the game until the scenario or campaign is completed.

F. If any officers, repair chiefs and repair crew members are in compartments or equipment hit by any plane during a wave or special attack, they are considered killed. See Rule 7.6 on how officers, repair chiefs and repair crew members are replaced if they are killed.

7.3 Ω Advanced Game Damage Results Determination - Wave Attacks and Special Attacks (Basic Game See 7.5)

A hit on the ship represents the break-up of a plane on impact, cooking off of armament it may be carrying, penetration of debris and the spread of aviation fuel wreaking havoc on various parts of the ship. Each successive hit increases the severity of the damage, making it harder to repair.

A. For each Japanese plane that hits your ship, roll both dice the appropriate number of times (see 7.1.C) on Table 11 to determine damage. If hits are obtained in a compartment or on equipment, it is considered damaged. For each hit, place a hit marker in a "hit box" for that compartment.

The steering room is an example of a primary compartment that can receive 4 hits before being destroyed. It cannot be flooded, since the compartment name does not have a blue bar in the background (See 7.3.F).

On the first hit for a compartment, place a fire marker next to the compartment. *The marker is informational only.* Damage crews in effect are trying to repair the damage caused by hits which ignited the fire – the hit markers. Exception see 7.3.G. Note that fire markers are not placed on radar, gun directors or water lines.

If a hit is obtained on a gun controller, place a hit marker on the "Damaged" space of the affected gun controller. If a hit is obtained on one of the ship radars, place a hit marker on the "Hit" space of that radar.

B. As in the basic game (Rule 7.5), once all hit boxes and the destroyed box within a primary compartment or equipment have a hit marker on them, it is considered destroyed and cannot be repaired on station. Place a destroyed marker on the space labeled "Destroyed" and remove all other markers, including the fire marker. The fire is considered to have burned itself out – destroying the compartment. Ignore further hits on the destroyed compartment or equipment.

A Deck fire is automatically started in the section hit (direct hit only), when hit by a plane. An Ohka starts a fire on a result of 4, 10 or 11 on Table 12.1. Torpedoes and bombs do not start deck fires.

Primary Compartments

C. Primary compartments may contain 2, 3 or 4 boxes. A compartment is destroyed when all boxes have a hit marker. When a hit marker is placed in the destroyed box, all hit markers and the fire marker for that compartment are removed and a destroyed marker is placed on the destroyed box.

D. Should a damage result indicate a compartment or equipment is destroyed even if it has less hits than is necessary to destroy it, it is considered destroyed. Place a destroyed marker in the compartment or equipment to indicate its status. For secondary compartments, check off all the boxes.

E. Table 11 has several damage possibilities that may result in the destroyer sinking. Should this occur follow the additional instructions for the result.

Primary Compartment Flooding

F. A primary compartment named with a blue bar may flood from the damage inflicted as soon as a plane hits. If the compartment is hit, roll 1d6 die. If the result is a 1-5, no flooding occurs. Place hit markers and the fire marker per rule 7.3.A.

If the result is a six, the affected compartment floods and considered destroyed. Place a Destroyed Marker and Flood Marker in the affected compartment removing any hit markers present. Then, move the Flooding Marker one space towards zero on the flood track, as well as on the maneuver track.

Results from Table 11 for that compartment are then ignored until a new ship is assigned or the current ship is repaired at anchorage.

When the flood marker on the Flood Track reaches "Ship Sunk," there is a possibility that the ship could roll over and sink. Consult Table 14. If it does not sink, the player may keep the ship at its present station. It is considered "settled" in the water. Every time the flood marker needs to be moved downwards but is already in the "sunk" box, the player must roll again.

G. If the compartment is not destroyed by flooding as a result of the second roll, crews in the compartment are considered to have stopped the flooding, and damage results from Table 11 will still apply. Repair crews are also placed according to Rule 7.7 (See also Listing/Trim Rule 7.4).

H. Should the compartment be repaired, remove the fire and flood markers, and move the marker on the flood track one space towards 10, as well as on the maneuver track.

I. When the following compartments are destroyed after receiving a fourth hit, and were not flooded as a result of a hit (see 7.3.F), the player must attempt to flood by rolling on Table 21:

Forward and Aft Fire Rooms, Forward and Aft Engine Rooms, Forward 5in Magazine 1 and 2, 40mm Magazines, Forward Fuel Tank, Aft Fuel Tank, 5in Magazine 3, 4 and 5, 40mm Magazine Aft and 20mm Magazine Aft.

J. If flooding is successful, any repair crew and officers in the compartment, may be reassigned (see Rule 7.7). Should a flooding attempt fail per rule 7.3.I, the player rolls on Table 21-1 to see if an explosion occurs in the compartment. This is a one-time roll and is not repeated for the compartment affected.

Note that if flooding is successful it is treated the same as a compartment flooded by a kamikaze hit, i.e. the markers on the Flood Track and the Maneuver Track are reduced by one box. Also, the flooding affects trim but not list, with the exception that the compartments in the Midship section (engine and fire rooms) do not affect trim. See rule 7.4.

Secondary Compartments

K. If a damage box on Table 11 is marked "Sec", the damage is recorded on the Secondary Compartment Hit Sheet. The first box on the Secondary Hit Sheet is "damaged" and the second box is "Compartment Destroyed." Should a secondary compartment remain damaged or destroyed at the end of a turn, there is a -1 roll modifier when checking for morale on Table 23. Some "secondary damage" compartments are shaded, which represents compartments below the water line and may be subject to flooding. If the secondary result is shaded, a player rolls one d6 die. If the result is 1-5, the compartment is not flooded. If the result is a 6, the secondary compartment floods, and the flood marker on the flood track is moved one space towards zero. This roll is only done once, at the time both boxes have been marked. Flooding also affects the marker on the maneuver track (7.3.S).

L. Note that flooding for primary compartments (Rule7.3.F) and secondary compartments (Rule 7.3.K) are handled differently.

Equipment

M. Items designated as equipment are the 5in. gun director, 40mm gun directors and shipboard radar.

N. Depending upon the equipment, the first hit marker is placed on either the "Damaged" space or the "Hit" space. If both types receive a second hit they are destroyed.

O. In both Basic and Advanced Game once an item has been destroyed, ignore additional hits on it and treat the extra hit as no effect. This applies to all compartments (Primary and Secondary) and equipment.

20mm, 40mm and 5in Guns

P. In the basic and advanced game, 20mm guns can only take one hit and they are considered destroyed. 40mm guns can be hit twice – the first is a damaged result and the second hit destroys the 40mm gun. The 5 in guns can take three hits before they are considered destroyed. For each hit a 5" or 40 MM gun receives, 1 is subtracted from die rolls on Table 9-2. In the basic and the advanced game, guns may not be repaired. See Section 11 (Optional Rules) if you wish to repair guns.

Hull Integrity

Q. Hull integrity is checked after the end of each phase. Determine the number of planes that hit the ship, *even those that resulted in superficial damage*. (Do not count near misses). Cross reference this number on Table 14-1 with the roll of two d6 dice. The result is the number of hull points lost. This is in addition to any hull points lost due to a damage result.

When hull integrity reaches 0, the player's ship must return to anchorage at the end of the phase. This is a two-step process. Roll on Table 14 to determine if your ship stays afloat. If it does, roll on Table 16 to see if your ship sinks while in route to the anchorage. Whenever damage occurs during a phase that moves the marker downwards but is already at zero, the player needs to roll again.

If your ship makes it to the anchorage, roll on Table 18 to see how long your ship is out of action. Start your next turn on the day after your ship is released from repairs.

Maneuver Track

R. If the Maneuver Track marker is at zero at the end of the phase, your ship must leave station and return to anchorage for repairs. Roll on Table 16 to see if your ship sinks in route. If your ship makes it to the anchorage, roll on Table 18 Return to Anchorage/Repairs to see how long your ship is out of action. Start your next turn on the day after your ship is released from repairs.

S. Each compartment (primary and secondary) that ends up being flooded moves the maneuver chit on the Maneuver Track 1 box towards zero.

Near Misses

T. If the damage result is a near miss – consult Table 11-1 (Near Miss Damage Table). If there is damage to your ship, place a hit marker in the affected compartment or note it on your Ship Log Sheet.

U. If the result is a miss or superficial damage on Table 11-1 "Near Miss Damage Table" – then the plane has missed the target, striking harmlessly in the water.

Crew Killed

V. If damage results in an unspecified officer or crew killed, consult Table 13 to determine which officer is killed. (See Rule 7.6)

Random Results

W. If the result is a random result, consult the Damage Random Result Table, Table 15.

X. Destroyed compartments or equipment cannot be repaired while the ship still occupies its assigned station and can only be repaired during the repair/replenishment phase.

Deck Fires

Y. If a deck fire is obtained as a result on Table 11, place a fire marker on the deck fire track for the appropriate section (See Rule 7.8.1). Deck fires are resolved during the damage control phase.

Z. Any Japanese plane that hits the ship automatically starts a deck fire in the section hit. An Ohka also starts a deck fire for certain results (see 7.2.B). If two or more kamikazes strike the same section in the same wave, only place one fire marker.

7.4 Ω Listing and Trim

A. List/Trim values are used in the advanced game only. They are ignored in the basic game.

B. Flooding of compartments is the primary cause of a ship listing or losing trim. If a ship is listing (port or starboard), or if it is out of trim (bow or stern), guns are further restricted from firing.

C. Consult the Firing Chart to determine if a gun can fire.

D. Each space on the List/Trim Angle Chart on the map represents the direction of the list and or trim.

E. If listing in different directions, the total angle in a direction is determined by subtracting the smaller value of markers from the larger value.

Example: Subtracting a value of one from the stern trim box from a value of two in the bow trim box gives us a value of +1 to the bow (2-1=1); Checking the Firing Chart's Bow Trim box under the +1 column, the result shows that both forward and aft firing guns can still fire into Low, Medium and High sectors. If the bow trim number was +2 or greater the forward firing guns would not be able to fire into the High Sector and aft firing guns would not be able to fire into the low sector. Starboard and Port List works the same way. List Example calculation - Subtracting the port value of 0 from a value of two to starboard gives us a value of +2 to starboard. I would then check Firing Chart to see which guns can fire under the resulting values. If the number of markers are equal in a given direction (bow and stern, or port and starboard), the ship is considered on an even keel for that angle for firing purposes.

F. When a primary or secondary compartment is flooded, move the flood marker one space toward zero on the Flood Track. When the marker reaches the "sunk" space, the ship may sink (See Rule 7.4.M).

G. See Rules 7.3.F through 7.3.J for details on flooding procedures.

H. If flooding occurs, the bearing from which the Japanese plane struck the ship determines how list or trim is affected: 0 degrees is the bow, 180 degrees is the stern, 45, 90, and 135 degrees is starboard, and 225, 270 and 315 degrees are considered port. List marker values are interchangeable when placing markers for list and trim.

I. Each time flooding occurs from the right side (starboard), then the ship lists to the right. Place one list marker valued at 1 for each compartment flooded on the Ship Angle section on the map labeled "Stbd List."

J. Each time flooding occurs from the left side (port), then the ship lists to the left. Place one list marker valued at 1 for each compartment flooded on the Ship Angle Chart labeled "Port List."

K. Each time flooding occurs from the bow (0 degrees), the ship loses bow trim. Place a trim marker valued at 1 for each hit on the Ship Angle Chart labeled "Bow Trim."

L. Each time flooding occurs to the stern (180 degrees), the ship loses stern trim. Place a trim marker valued at 1 on the Ship Angle Chart labeled "Stern Trim."

M. When the flood marker on the Flood Track reaches "Ship Sunk," there is a possibility that the ship could roll over and sink. Consult Table 14. If it does not sink, the player may keep the ship at its present station. Note that every time the flood marker needs to be moved downwards but is already on the "sunk" box, they must roll again (7.3.F).

N. At the end of each turn, if the ship's flood track remains at zero, the player checks to see if the ship sinks. This check is in addition to checks during the course of play as the ship takes damage.

O. If the ship leaves station for repair at the end of a phase, the player would roll on Table 16 to determine if the ship successfully reaches the anchorage.

7.5 Basic Game Damage Results

For ease of play damage control repairs are handled sequentially, even though the action is occurring simultaneously. Repairs are handled in the order below.

A. For each hit in a primary compartment or equipment, place a Hit Marker in a hit box. On the first Japanese plane that hits a primary compartment, place a fire marker *next* to it. *The marker is informational only.* Damage crews in effect are trying to repair the damage caused by hits which ignited the fire – the hit markers.

B. Once all hit boxes and the destroyed box within a primary compartment or equipment have a hit marker on them, the item is considered destroyed and cannot be repaired on station. Place a destroyed marker on the space labeled "Destroyed". Remove all other markers from the destroyed compartment.

C. In the basic game, repair crews are not assigned to secondary compartments. For the advanced game, see Rule 7.9. Any secondary compartment hit is treated as a hull hit and decrease the Hull Integrity status by one space for each secondary hit. When the hull level reaches 0 – there is the possibility the ship could sink (see Rule 7.3.Q).

7.6 Officers, Crew Killed

A. In the event officers are killed or incapacitated, *at the beginning of the next phase* use the following procedure to determine their new value.

B. When an officer is killed (CPT, XO, Gunnery, DCO, or Engineer), as well as the CPO or any of the three repair chiefs, replace their current rating with a new chit draw.

C. Note the new values for officers and enlisted men on the Ship Log Sheet.

D. Place value chits drawn back into the cup once all values are noted.

E. Repair crew casualties are replaced when the ship is next at anchorage for replenishment/repair.

7.7 Repair Crews

A. At the conclusion of all Japanese attacks in a wave, including Special Attacks, damage control repair crews are assigned to primary compartments, equipment (gun directors and radar), and secondary compartments to repair damage caused by hits.
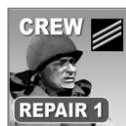
 B. Repair crews are restricted as to where they can be placed: **Repair One** crews can be placed in any compartment or equipment (ship radar, gun directors) in the forward section. **Repair Two** crews can be placed in any compartment or equipment in the Midship section. **Repair Three** crews can be placed in any compartment or equipment in the aft section.

C. No more than 3 repair crewmen can be placed in any one primary compartment. Each repair crewman has a value of one. Only one repair crewman can be assigned to repair ship board radar or gun directors. Only one repair crewman can be assigned to a secondary compartment.

D. When determining repairs, officers and repair chiefs are assigned to damage control (even if applying a negative rating) according to the following sections. Officers and repair chiefs are not used in secondary compartment repairs, thus they cannot be assigned to the Secondary Compartment Repair Box.

E. The XO must apply his rating in one compartment only. Place the XO Crew Marker in the assigned compartment. His rating will not apply to repairs if he is killed earlier in the phase.

F. The Engineer must apply his rating in any one of the following compartments: forward or aft engine rooms, forward or aft fire (boiler) rooms or steering room. Place his Crew Marker in the assigned room. His rating will not apply to repairs if he is killed earlier in the phase.

G. The Damage Control Officer must apply his rating to all repairs in any one assigned section. Any repair attempts in any compartment in that section gain his modifier. Place his Crew Marker in the assigned section (Forward, Midship or Aft). His rating will not apply to repairs if he is killed earlier in the phase.

H. Repair chiefs must apply their ratings to all repair attempts to their section. Place the Repair Chief Crew Marker in the appropriate section. His rating will not apply to repairs if he is killed earlier in the phase.

I. Once damage crews and officers have been assigned, repair attempts are made (See Rule 7.8).

J. If, in subsequent waves, a primary or secondary compartment containing officers, the CPO and/or repair crews is hit again, they are considered killed and removed from the game. Each time a kamikaze hits a primary or secondary compartment in a section in which repairs are still in progress, roll 1d6 for that section's repair chief; if the roll is a six (6) he is considered killed and removed from the game. Roll again for the Damage Control Officer if he is assigned to this section.

K. A casualty check is made each time a kamikaze hits a primary or secondary compartment, even if the compartment is already destroyed, but only one check is made no matter how many compartments a given kamikaze hits.

L. At some point during the game, damage may accumulate to a point where it will overwhelm the repair crews. When 50% or more of the primary compartments are either damaged or destroyed, the player may declare emergency repairs -- that means all hands are to fight the fires and damage. To see if the declaration is successful, roll on Table 17 taking into account the captain's value.

M. If the declaration is successful, the destroyer may no longer fire its guns. All hands means all hands! During damage control rolls on Table 20, the player may now use a +2 modifier, in addition to all other modifiers.

N. If a declaration is unsuccessful, the player may either continue with normal repairs and play on, or abandon ship. If the ship is abandoned, the Japanese are considered the victors.

O. A player may call off the emergency at any time after the first enemy attack after the declaration or if repair rolls reduce the number of primary compartments damaged to fewer than 50%. A compartment is considered repaired   when all hit markers are removed from a compartment. After the emergency is over, the +2 modifier for repairs is no longer used. The destroyer may also continue to use its guns.

7.8 Damage Control Repairs

7.8.1 Deck Fires

 A. Resolving deck fires are handled differently than repairs for equipment or compartments. All sailors were schooled in fire control, so available hands on deck are working to extinguish the fires. Placement of repair crews is not necessary. Deck fires are handled first before all other repair attempts are attempted for that particular wave or special attack. A Deck Fire marker (see illustration) is placed on the deck fire track when the ship is hit by a plane, and the roll for damage indicates a deck fire. Thus it's possible two markers are placed on the track.

B. To extinguish fires, roll 1d6 for each track that indicates a fire. If the result is a 1, 2, 3 or 4, all fire markers are removed for that specific track. If water lines are out, one is added to the roll. Should deck fires be extinguished for each section, proceed to Rules Section 7.8.2.

C. If the fire is not extinguished, add another fire marker and roll again to attempt to extinguish the fire. If the fire is not extinguished on the second attempt add another fire marker. If any deck fire track is now full, the fire is out of control (see 7.8.1.D). Otherwise continue on with the current wave's damage control attempts. The player's last chance to extinguish any deck fires still burning will occur after the next wave has been resolved. *Note that a hit during this wave can cause a fire to go out of control before the player has the opportunity to roll.* If no more waves remain to be resolved, the player makes a final attempt at the end of the phase; failure means the fire is out of control.

D. When all fire spaces on a fire track are filled with fire markers, and the last roll failed to extinguish the fire, the fire is considered out of control and the ship is considered lost.

E. Repeat 7.8.1.B through D for each section (Forward, Midship and Aft) that has a deck fire. It only takes one section fire to go out of control to sink the ship.

7.8.2 Primary Compartment Repairs

A. Each primary compartment has an inherent repair value of 1 and each repair crew counter has a value of 1 (7.7.C). This value, plus the number of repair men (not to exceed 3), and any ratings of officers and repair chiefs assigned, are used to give an initial value to determine repairs.

B. Subtracted from this is the value of hit markers present in the compartment. If one marker is present 2 is subtracted from the initial total; if two markers are present, 4 is subtracted; if three markers are present, 5 is subtracted from the total.

C. The final total determines which column to use when determining repairs on Table 20.

D. To reflect the role crew morale plays in accomplishing its mission, if the Morale level on the Morale Track is a negative, apply a -1 die roll modifier to Table 20. If Morale is positive, apply a +1 die roll modifier.

Example: Let's assume that the forward fuel tanks have been hit, with a marker in two hit boxes. We have three (3) repair crewman assigned, plus the Repair One chief rating of +1. We are also assigning the DCO, also with a rating of +1 and the inherent value of 1. Our morale is at zero. The total rating is +6, However, since there are two damage markers present, 4 is subtracted from the total, yielding a +2. Roll 2d6 and cross reference the result under the +2 column of Table 20.

E. Roll on Table 20 to determine if repair attempts are successful. If they are successful, roll 1d6 to see how many hit markers are removed: a roll of 1 or a 2 removes 1 hit marker; a roll of 3, 4 or 5 removes 2 hit markers, and a roll of 6 removes all hit markers. (See the modifiers on Table 20).

F. If a compartment or equipment has all its hit markers removed after successful repairs, repair crews may be put back in their holding boxes or moved to another compartment in the same section that has yet to have its repairs resolved for the current wave, not to exceed the limit for repair crew counters (no more than 3) in a compartment. Movement of repair crew may happen more than once in a wave. Officers can remain in the compartment or placed in another compartment.

G. If any hit markers remain in a compartment after the repair attempt, all damage crews, chiefs and officers assigned to the compartment must remain to repair the damage in the next phase, and a +1 is added to the repair attempt roll. Any bonus the compartment may have provided is lost until it is repaired.

H. At the end of the phase any Primary Compartment (Not secondary compartment or equipment) that has not had a repair crew assigned to it during the phase will have an additional hit added to it to reflect the fact that the damage from fire and/or flooding is spreading.

I. If at the end of a phase the player finds both ship-board radars are destroyed, the ship must head back to port for replenishment or repairs.

J. Depending on which compartment is destroyed, it will have an effect on other systems:

Magazines – the gun or guns it supplies can no longer fire. It does not affect ammunition expenditure when determining ammo usage during the end of turn maintenance phase (8.2). Note that 40mm Gun Tubs have two magazines, both must be destroyed in order for the 40mm guns not to fire. If the forward magazine is destroyed, gun tubs A and B have a -1 to hit penalty, representing the added difficulty of supplying ammunition from the more distant magazine. Similarly if the aft magazine is destroyed, gun tubs C, D, and E have a -1 penalty.

Engine Rooms – for each engine room no longer functioning, the maneuver chit is moved 5 spaces towards 0.

Fire Rooms – if both Fire Rooms are out of operation, the ship loses all power and becomes dead in the water. All 40mm and 5 in. guns lose their firing bonus. The maneuver track is immediately set at 0.

Fuel Tanks – for each fuel tank out of operation, 5 is subtracted from the fuel track. When the fuel track reaches 0 the ship must return to anchorage at the end of the current phase. No Emergency Maneuvers are allowed.

Bridge, CIC and Radio – for each of these compartments destroyed, then a -1 modifier is used when determining if Japanese planes attack (See Table 8.1) for the remainder of the time the ship stays at its present duty station.

K. If both engine rooms are out of operation, or if both fire rooms are out of operation, or if both ship board radars are destroyed, then the ship at the end of the present phase is returned to anchorage due to damage.

L. If, in subsequent waves, a compartment containing officers and repair crew is hit again, they are considered killed and removed from the game.

M. If your ship is sunk, and you are playing a mini-campaign or the long campaign, he starts with a new ship and crew, and goes through the procedures as stated in Rule Sections 2 and 3. Play is considered to start the day after your previous ship was sunk.

N. Ships sent to anchorage due to damage or replenishment roll on Tables 18 or 18-1 respectively.

7.9 Ω Repairing Secondary Compartments

A. Repairing of secondary compartments is only used in the advanced game, and is handled differently than repairing primary compartments.

B. Secondary Compartment Damage is noted on the Secondary Compartment Damage Sheet (See Rule 1.7).

C. Unlike primary compartments, secondary compartments do not have an inherent value of one (1) when determining damage repairs.

D. The player may attempt to repair none, some or all of the secondary compartments that are damaged.

However, should a secondary compartment remain damaged or destroyed at the end of a turn, there is a -1 roll modifier when checking for morale on Table 23. For each secondary compartment damaged, the player may place one (1) unassigned repair crewman from the appropriate repair section into the appropriate section box in the Secondary Compartment Repair Box located near the top center of the map.

Example: Let's say the Sail Locker, Crew Quarters 2 and the Crew Head in the aft section have been hit. I then take three (3) unassigned repair crewmen from Repair Section 3 and place each one in the Aft Section of the Secondary Compartment Repair Box.

E. If there are no available repair crewman, then repair attempts on secondary compartments cannot be made.

F. Roll one 1d6 for each secondary compartment repair attempt. On a roll of 1-4, the repairs are successful. If the repairs are successful, repair crewman are moved back to the Repair Section holding box. If unsuccessful they remain in the holding box. Subsequent repair attempts benefit from +1 to the dieroll.

G. If the secondary compartment containing a repair crewman is hit by a Japanese plane in a subsequent wave, the repair crewman is considered killed and removed from the game.

H. Secondary compartments with blue backgrounds may be flooded voluntarily in order to offset list and trim caused by flooding of primary and other secondary compartments. Simply mark all boxes in the compartments selected for flooding. Flooded compartments are considered destroyed. Move the marker on the flood and maneuver track 1 space towards 0 for each compartment flooded, (See 7.3.S) and place list and trim markers as necessary to bring your ship to an even keel (both sides with an equal value). If the player voluntarily floods a secondary compartment, there is no penalty for a destroyed sec. comp. during the morale check at the end of the turn.

To simplify the details of the naval architecture of the ship, the player may arbitrarily select any floodable secondary compartment(s) to affect list, trim, or both, as the player chooses -- within the limitation that only secondary compartments in the forward section affect bow trim, and only secondary compartments in the aft section affect stern trim. Players wishing a more complex approach should use optional rule 11.6.

Example: Let's say a value of 4 is in the port list box, and 2 in the starboard list box from previous flooding. I decide to flood two secondary compartments (Repair Stores and Supply Stores in the Forward Section) to bring the ship to an even keel. I would then place two list points in the starboard list space, making it and the port list box equal in value to the starboard side.

7.10 Gun Director Repairs

A. Gun directors do not have an inherent value of 1 when it comes to damage control. Only one repair crewmen from the appropriate section may be assigned to try and repair the damage.

B. When a gun director takes a hit, place a hit marker in the box labeled "Damaged". Place a repair crewman in the box labeled "Repair" if you wish to attempt repairs. To repair them, roll on Table 20 using the +1 column to determine the result. Officer ratings and repair chief ratings are not applied when attempting to repair gun directors. If unsuccessful the crewman remains in the "Repair" box and receives a +1 bonus for subsequent rolls on Table 20.

C. If a gun director is repaired, the bonus it gives to its assigned gun is reinstated.

D. If a second hit is obtained on a gun director before it is repaired, it is considered destroyed. Place a "Destroyed" marker on the space labeled "Destroyed" and remove the hit marker.

E. Should a crewman be in the repair box when a gun director is destroyed, he is considered killed and removed from play.

7.11 Ship Radar Repairs

A. Like gun directors, shipboard radar do not have an inherent value of 1 when it comes to damage control. Only one repair crewmen from the appropriate section may be assigned to try and repair the damage.

B. When radar takes a hit, place a hit marker in the box labeled "Hit". Place a repair crewman near the Radar Box if you wish to attempt repairs. To repair them, roll on Table 20 using the +1 column to determine the result. If unsuccessful the crewman remains near the Radar Box and receives a +1 bonus for subsequent rolls on Table 20.

C. If a second hit is obtained on a radar before it is repaired, it is considered destroyed. Place a "Destroyed" marker on the space labeled "Destroyed" and remove the hit marker.

D. Should a crewman be in the repair box when a radar is destroyed, he is considered killed and removed from play.

7.12 Water Line Repairs

A. When the player receives damage to the water lines a hit marker is placed in the Waterlines box for each hit, whether the hit occurred in the Forward, Midship, or Aft sections. Hit markers are placed even if the "water lines out" random result (Table 15, entry "2") is currently in effect.

B. *Water lines can take three hits before being destroyed and non-repairable.* The moment when three hit markers occupy the water lines box in the Secondary Compartment Hit Box on the map, the water lines are considered destroyed. Place a Destroyed marker in the water lines box. Further hits are ignored.

When water lines are destroyed the "water lines out" random result (Table 15, entry "2") is ignored.

C. Water line repair does not require the placement of a repair crewman in the Secondary Compartment Hit Box. To repair water lines, roll 1d6: 1, 2 - Lines Still Out; 3 – 6 Lines Repaired. There is no modifier for the roll. All hit markers are removed should the lines be repaired.

D. The ship may be returned to port for repairs and replenishment should the water lines be destroyed. The ship would return to the anchorage at the end of the phase during which the lines were destroyed.

8.0 End of Turn Maintenance

At the end of the 3rd Phase (night) of each turn, the player performs end of turn maintenance functions.

8.1 Morale Check

A. Add the captain's and CPO's chit value rating and use the result to consult the appropriate column on Table 23 – Morale Check. (Use a value of 0 if either is killed.) Move the morale marker left for negative results indicated, and right for positive results indicated.

B. If the result is zero (0), leave the Morale Marker at its current position. If the Morale Marker is at -2, ignore negative results. The Morale Marker cannot go past -2. If the Morale Marker is already at +2, ignore positive results. Morale Marker cannot go past +2.

8.2 Ammunition Supply

A. If guns were fired during any wave action in the course of the turn, roll on Table 24 – Ammo and Fuel.

B. The result from that roll is the amount of ammo used during the turn. Decrease the ammo supply by the number of boxes determined on Table 24.

C. These boxes are in addition to the box used during Special Attacks (Spray Fire), and lost as a result of damage during any of the three phases.

D. Should the ammo track be reduced to zero – the ship must return to anchorage to replenish (See Section 9).

8.3 Fuel Supply

A. Roll on Table 24 to determine how much fuel was consumed for the turn. The result is the number of spaces the marker is moved down on the fuel track. This is in addition to fuel lost as a result of damage or used in Emergency Maneuvers during any of the three phases.

B. Should the fuel track be reduced to zero – the ship must return to anchorage to replenish (See Section 9).

8.4 Ship Board Radar

A. If both shipboard radars are destroyed, the ship must return to anchorage for repairs. (See Section 9)

9.0 Replenishment and Repair

A. When a player returns to anchorage for replenishment only, roll on Table 18.1. Consult the appropriate result to determine the length of stay before returning to the game.

B. If the ship returns with any type of damage – even if fuel or ammo is at zero - consult Table 18 to determine the length of stay for repairs. However, If the player judges that the current level of damage to the ship is acceptable, he may opt to leave the damage unrepaired and carry out replenishment only (i.e., roll on Table 18.1 instead of Table 18).

C. Reset the Morale Rating for the ship to "Zero" on the Morale Track on the map if the Morale rating is a negative number. All Damage Control repair sections are brought back to full strength per Rule 1.3.2.

D. When the player returns to action, he determines a new duty station based on the date he returns.

E. If your ship was sunk, new ratings for all crew members are determined by drawing new value chits. New values are noted on the Ship's Log Sheet.

F. Replenishment occurs under the following circumstances: Fuel track reaches a value of zero or ammo track reaches a value of zero.

G. There may be a point where the ship takes too much damage and the captain will have to make the decision to leave the field of battle. At any time when any one of the following conditions have been met, the player must withdraw for repairs: Both engine rooms destroyed, both fuel tanks destroyed, both fire rooms destroyed, rudder destroyed, both prop shafts damaged or destroyed, hull integrity reaches zero, maneuver track reaches zero, both shipboard radar destroyed. If 50% of armament is damaged or destroyed, the player may withdraw if he chooses. Note that if the marker on the Flood Track is in the "sunk" box when the ship withdraws, the player must roll on Table 16 to determine if the ship reaches the anchorage safely. Withdrawal of the ship occurs at the end of the current phase, not turn.

H. If Rule 9.G occurs; the Japanese player is declared the winner for the scenario or mini campaign being played.

I. After replenishment or repairs or both, move all tracks (hull, maneuver, fuel, ammo and flood) to 10 and remove all damage markers.

J. It's entirely possible that a player could miss one or more Kikusui attacks depending on the length of repairs or replenishment. Consider yourself lucky.

10.0 Winning the Game

A. Victory conditions for scenarios 1 – 8 are listed in the individual scenario instructions in the Scenarios section in the **Tables** booklet.

Victory conditions for the Mini-Campaign and the Full Campaign are listed at the end of the Scenarios section in the **Tables** booklet.

11.0 Optional Rules

The following optional rules may be played with either the basic game or the advanced game.

11.1 Willow

A. The Willow was an airplane made of mostly of wood, making it hard to detect by radar of the period. In order to simulate this feature, if the target is a Willow and the gun shooting is a 5 inch or 40mm, the Willow negates any firing bonus the gun may have. If 5" guns are firing independently of the 5" M-37 gun controller, then a -1 modifier is applied to the dice roll. To represent its flimsier construction, when a Willow hits the ship the player rolls only once on the Damage Tables.

11.2 Gun Crew Aces

A. When a particular gun mount or tub gets five kills or more, it receives +1 bonus when determining if Japanese planes are shot down. This is in addition to other bonuses the gun or mount may have. If the mount is damaged or destroyed or if the destroyer is sunk, the bonus is lost. However, if optional rule 11.5 is in use the bonus is restored when the gun is repaired.

11.3 Attack Ends

A. In the basic and advanced game, the Attack Ends Markers are put into the same container as the Japanese planes. When playing a scenario, drawing an Attack Ends marker can happen, leading to a sudden and a quick win for the player.

B. For those that want the opportunity to fight it out whenever possible, do not place the Attack Ends Markers with the Japanese planes during set-up for a scenario. They are placed with the planes if playing a campaign.

11.4 Japanese Twin-engine Planes

A. Air Fire Support Markers may add +1 to the roll when firing at Japanese twin-engine planes. This is to reflect their larger size. The bonus applies to the following planes: Lily, Peggy, Sally, Frances, Betty, Irving, Nick, and Dinah.

11.5 Gun Mounts

A. In the basic and advanced game, guns cannot be repaired. However, if using this optional rule the 40mm and 5in guns may be repaired. The 20mm guns, once hit, are considered destroyed.

B. The procedure for repairing a gun is the same as repair of a primary compartment (see 7.8.2). If the repair attempt is unsuccessful all damage crews, chiefs and officers assigned to the gun must remain, and receive a +1 bonus for subsequent rolls on Table 20.

C. Repair crews are placed during the player's Damage Control Crew Placement phase. Up to three repair crewmen may be placed on each gun that is damaged. Normal bonuses for chiefs and officers apply when repairing guns.

D. Guns are repaired at the same time as compartments and equipment (i.e., after attempts to extinguish deck fires). A sheet is available for download to place damage control repair crews on guns needing repairs. See the last paragraph of 12.1 for the link.

E. All guns are brought to full operation when repairs are undertaken at anchorage.

11.6 Alternative Flooding Procedures

This rule replaces 7.4.H and 7.9.H of the Advanced Rules. Under this rule the player must consider the specific compartment affected when determining how flooding affects list and trim.

For kamikaze hits to primary compartments and flooding of magazines (7.3.J) the following applies:

   1. A flooded primary compartment in the forward section affects bow trim but not list.

   2. A flooded primary compartment in the midships section affects neither list nor trim.

   3. A flooded primary compartment in the aft section affects stern trim but not list.

For kamikaze hits to secondary compartments, and for voluntary flooding of secondary compartments, the following applies (see the Secondary Compartment Hit Sheet):

   4. In the forward section, any secondary compartment in the middle column (Boatswain Stores through Storeroom 4) that becomes flooded affects bow trim but not list.

   5. Similarly, any secondary compartment in the right-hand column (Provisions through Supply Stores) affects starboard list and bow trim.

   6. And any secondary compartment in the left-hand column (Dressing Station through Projector) affects port list and bow trim.

7. In the aft section, any secondary compartment in the right-hand column that becomes flooded affects both starboard list and stern trim.

8. Similarly, any secondary compartment in the left-hand column affects both port list and stern trim.

11.7 Play Balance

A. The Picket Duty game system reflects a level of damage that approximates the actual damage taken by US destroyers assigned to Picket Duty stations around Okinawa over the entire campaign. While destroyers participating in the Okinawa Campaign took more damage than were experienced in other Pacific Naval battles, they were by no means forced to abandon their Picket Duty assignments because of loses inflicted by the Kamikazes.

While the assignment to a Picket Duty station could be harrowing for crews of destroyers that were hit and overwhelmed by Kamikazes, most destroyers received little or no damage during their tours of duty. For players looking to have a more "Bloody" experience while doing Picket Duty the following optional rules should provide you with that experience.

B. Gunnery Officer Bonus - Assume your destroyer has a new or "green" Gunnery Officer and the gun crews are below average in their training. To reflect this, roll 1D6 (1-3 is a -2 value and a 4-6 is a -1 value) to the Gunnery Officer rather than using the chit value pulled for him in the initial game setup. Use this negative value as a modifier to the dice roll when determining hits on table 9.2 US Defensive Fire Tables. This should decrease the number of hits on Japanese plane counters and allow more of them to pass through the destroyer's defensive fire screen and strike the ship. More planes hitting the ship directly increases the chances of damage, which will allow you to use your Damage Control crews to "save the ship".

C. Morale - If you are still looking for a "bloodier" experience, then use the ship's morale rating as an additional dice roll modifier when rolling on Table 9.2 US Defensive Fire Tables. Justification: If the morale is -1 or -2 the crew of the destroyer is "shaken" or if the destroyer is a new ship then they are "green". In either case they are not working at peak efficiency and therefore would not be as quick getting onto a target, etc., causing fewer hits than normal.

D. NOTE: Optional rules B. and C. will unbalance the game in favor of the Kamikazes so be prepared to lose your destroyer if you decide to use them.

E. Included in the game are six historical scenarios, two hypothetical scenarios and two campaigns. Scenario 1 is an introductory one, designed to get a player comfortable with game system. Once a player is comfortable with the game system, the player may move on to other scenarios and campaigns provided with the game.

12.0 Playing the Game

12.1 Designing your own Scenarios

A. Creative players may design their own scenarios, and use any date on the Time Record Sheet as a start date. Keep in mind that the game features the Fletcher class. The Sumner, Gearing and destroyer escort classes had different weapon load outs. Weapon load outs for the various versions of the Fletcher Class are provided at the end of the rules.

Scenarios 7 and 8 are hypothetical scenarios and can be used as a guide when designing your own scenario, or adapting the game for action in the Philippines. Each has a custom map and they can be downloaded at http://www.stevenkdixon.com/extras.htm.

13.0 Sources

Books:

- Kamikazes, Corsairs and Picket Ships, Okinawa 1945 by Robin L. Rielly
- Kamikaze Attacks of World War II by Robin L. Rielly
- At War with the Wind by David Sears
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- Tales from a Tin Can by Michael Keith Olsen
- Okinawa 1945 – Final Assault on the Empire by Simon Foster
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- Victory in the Pacific 1945 by Samuel Eliot Morison
- United States Destroyer Operations in World War II by Theodore Roscoe
- US Destroyers 1942-45: Wartime Classes by Dave McComb.

Official Documents:

- USS Dewey Damage Report dated December 1944
- USS Aaron Ward Battle Damage Report, May 1945
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- US Navy Battle Damage Reports, 1945
- Anti-Suicide Action Summary, August 1945
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- Warship Principles of Construction and Damage Control, 1935
- Standard Organization for 2100 ton Destroyer, September 1943
- Suicide Attacks, April 1945
- VT Fuzes for Projectiles and Spin Stabilized Rockets, 1946.
- Bath Iron Works blueprints for Fletcher Class Destroyer
Websites:

- US Naval History and Heritage Command
http://www.history.navy.mil/
- Destroyer History Foundation
http://www.destroyerhistory.org/destroyers/index.html
- USS Abbot -
http://abbot.us/DD629/main/

14.0 Credits - 1st and 2nd Editions

Concept and Design: Steve Dixon Dixon

Graphics and Layout: Steve Dixon, Randy Lein, Felipe Santamaria, Vincent Bourguignon

Cover painting: "Trial by Fire" - Tom Freeman (used by permission).

Play testers: Steve Dixon, Bob Best, Ian Wakeham, Ed Strecker, Ken Rice, Steve Huff, Todd Beckman, Todd Quinn and others whose names have been lost due to a blown hard drive.

Proof Readers: Bob Best, Kenneth Nied, Hans Korting.

Rule Corrections and Clarifications for 2nd Edition: David Biekzsa and Steven K. Dixon.

15.0 Design Notes

Note: Examples of play may be found at http://www.stevenkdixon.com/pd_examples.htm

This new edition of Picket Duty is more than just a superficial change but a significant upgrade. Errors on the map have been corrected, and the rules and tables have undergone many changes.

The inspiration for the game came while I was reading the book, "Kamikazes, Corsairs, and Picket Ships," by Robin L. Rielly. I immediately thought of a solitaire game in which the player is the "captain" of a Fletcher Class destroyer while serving on radar picket duty off Okinawa. I jotted down my ideas and began the long process of design to printing.

Why the Fletcher class? It was the predominant destroyer class at Okinawa. Other classes did serve, but the Fletcher class allowed for more scenario possibilities.

The weapons load out of the Fletcher class depicted in the game is typical for the class by 1945. The Fletcher class and other classes of destroyers were constantly undergoing upgrades as field experience made its way back to the shipyards and the designers.

The weapons lay out depicted in the game began in July 1943 and ended in February 1945. So for game purposes the player has as his armament five 5" guns (two forward and three aft), 10 40mm Bofors AA in five twin barreled tubs and seven 20mm Oerlikon guns.

In June 1945, a weapons change was initiated. It increased the number of 40mm barrels and 20mm barrels. It is not depicted in the game since the time period for the game ends in late June.

The purpose of the picket stations was to give advanced warning to the main fleet in case of aerial attack and to assist in fighter direction. Hence many of the destroyers had fighter direction teams on board. The assignment of FDT teams is depicted in the game.

Just where did most of the Kamikazes appear in relation to the ship? In contacting the United States Naval History Heritage Command – they did not have the information. Apparently those figures were not compiled. While extensive reports have been made concerning ship damage and how best to combat Kamikazes, the number of Japanese planes that attacked each picket station is not known. So a best guess had to be made.

Other sources pointed to the northern stations, particularly Picket Station 1 as being the most deadly (see diagram for location of picket stations at end of design notes).

Japanese planes came from bases in southern Japan and Formosa. Hence in the game, if the player is assigned to Station 1, the action could be hotter compared to other stations.

Unlike the USAAF, which utilized a clock system to tell what direction an enemy plane was attacking relative the plane being attacked, the Navy used a bearing system. Hence the positions where Japanese could attack are represented by eight bearings - 0°, 45°, 90°, 135°, 180°, 235°, 270° and 315°.

The Kamikazes attacked from every conceivable angle, so to make the game playable certain decisions had to be made. The high, medium and low designations are a function of both altitude and angle of attack. Otherwise players would be bogged down as planes made their way from high to low altitude, firing as each plane made their way closer to the ship. With as many as 18 planes attacking, the player would be saddled with too many steps.

High altitude also represents a high angle of attack, medium altitude a medium angle of attack and low altitude represents a low angle of attack – a water level attack. Guns are assigned to the planes in these attack positions and attempt to shoot down the Kamikazes.

As for the 5" mounts, and for the sake game play, the use of the MK37 gun controller and its relationship to the mounts was simplified. For the basic game, any 5" mount can fire at any Kamikaze within its zone of fire. In the advanced game, the Gun Controller slaves all 5" mounts to one target in one bearing. If the mount can't track the bogie with the controller, it can fire at another target in a different bearing, but without a bonus.

Support for your ship is depicted by surface and air assets. While each did an admirable job in helping the destroyers on picket duty, the Japanese Kamikazes still managed to get through. When it comes to air assets, 4 counters are provided since this is the average that will be available. Extra counters are available online at stevenkdixon.com. Go to the Extras page and look under Picket Duty.

Once a Kamikaze struck the ship, the damage caused could be deadly. In some cases, a hit caused very little damage. Some ships took numerous hits by Kamikazes and stayed afloat, while some took one hit and sank.

Most of the planes were armed with bombs, so not only the plane and its spilled fuel caused damage, but its bomb penetrating the ship also caused damage.

Destroyers, unlike bigger ships, did not have empty spaces to counteract flooding. To do so destroyers transferred oil to right the ship to an even keel, and sometimes flooded working compartments.

Flooding capability is limited, and players will be forced to make decisions as to when and how many compartments to flood to bring the ship to an even keel.

Key individuals depicted in the game are the officers the Chief Petty Officer, and the damage repair parties. Each has certain capabilities and players will soon find out there aren't enough repair crews to repair everything – the player will have to prioritize.

The game is not meant to be a detailed simulation. But I hope the game will give players an idea of the deadly combat that the "tin can sailors" off Okinawa had to endure. There was nowhere to go; no foxhole to dive into – they had to stay and take it.

Steve Dixon

Other Great Solitaire Titles by Steve Dixon

16. Detailed Sequence of Play

A. Setup	**1**. Choose a Scenario, mini-campaign or full campaign to play. (Scenarios section in the Charts & Scenarios book)
	2. Set up the map. (See Section 2)
	3. Determine Picket Duty Station. (Rule 4.A.)
	4. Assign Fighter Direction Team to the destroyer. (FDT) (Rule 5.1)
	5. Determine Surface Fire Support. (SFS) (Rule 5.2)
	6. Determine Land Radar, if applicable for your start date. (Rule 5.3)
	7. Set Ships Radar. (Rule 5.3.1)

B. Phase Sequence of Play (Do for each of the three phases - Morning, Mid-day, Night.)	**1**. Determine Weather. (Rule 6.2) (Table 6.1) 　　a. Rain (Rule 6.2F) 　　b. Storms (Rule6.3)
	2. Determine Air Fire Support. (AFS) (Rule 6.4) (Table 7.1 - 7.3)
	3. Determine Japanese Kamikaze Attacks. (Rule 6.5) (If it's a Kikusui date use Rule 6.6) 　　a. Roll on Table 8.1 to determine attacking plane sub-table. (Rule 6.5 A-D) 　　b. Roll on lettered sub-table to determine number of planes attacking. (Rule 6.5 E-F) 　　c. Determine number of Regular Waves and Special Waves on Table 8.3. (Rule 6.5 G-O) 　　d. Place counters per Rule 6.5 G. 　　e. "Attack Ends" marker- Cancel all attacks if drawn. return counters to container. 　　f. Night Attacks - (Rule 6.5M) 　　g. Kikusui Attacks - (Rule 6.6)
	4. US Defensive Fire (Rule 6.7) 　a. Regular Attack Wave - (Rule 7.1) (tables 11 & 11.1) 　　1. Assign Gun Target, SFS and AFS counters. (Rule 6.7) 　　　<u>Note</u>: There are restrictions on the use of SFS(Rule 5.2.C) and AFS counters (Rule 6.4.E) 　　2. Roll each US Defensive fire combat on Table 9.2. (Rule 6.7.N) 　　3. Place Hit and Shot Down - Flamed markers as specified by the results. Leave counters in place on the map after the combats. (Rule 6.7.O) 　b. Special Attack Wave - (Rule 7.2) (tables 12.1, 12.2 & 12.3) 　　1. Roll for placement of Special Attack Wave counters. (Rule 6.8.B) 　　2. Place counters in designated ship sections - Aft, Midships, Forward. (Rule 6.8.B) 　　3. Assign Section Spray Fire. (Rule 6.8 C and 6.8 F) 　　4. Remove destroyed plane counters and leave surviving plane counters on the map.
	5. Decide if the destroyer is going to attempt Emergency (Evasive) Maneuvers (Rule 6.9). a. 　 If successful, a -1 modifier is applied to the dice roll on Table 10. 　 b. Emergency (Evasive) Maneuvers can <u>only</u> be rolled for <u>ONCE</u> per phase. 　 c. Use result for <u>all</u> attacking waves for the entire phase. (Rule 6.9E)

B. Phase Sequence of Play (continued)

6. For each plane counter left on the map after all US Defensive Fire roll on Table 10 to see if the plane strikes the destroyer. (Rule 7.1 & Rule 7.2)

    a. Determine damage caused by each plane as you roll above (Rule 7.3 A-Z) and Tables 11, 11.1, 12.1, 12.2, 12.3)

        1. Roll for all Regular Wave Attacks first. (Rule 7.1) (Tables 11 & 11.1)

            a. Roll <u>TWICE</u> on Table 11 for <u>each</u> hit obtained (three times for twin-engine planes, once for Willow). (Rule 7.1.C)

            b. Random Results roll on Table 15.

        2. Special Wave Attacks are rolled second. (Rule 7.2)

            a. Special Weapons hit - Tables 12.1, 12.2 & 12.3)

            b. Chance that plane will also hit ship after Special Weapon release.

            c. Check for Killed crew members in areas hit by Kamikazes. (Rule 7.6)

            d. After hits placed return gun markers, AFS and SFS markers back to their positions. d. Regular planes are returned to the draw pile.

            e. Special Attack Planes are set aside. (Rule 7.2.E)

7. After all plane's damage results have been applied for the current wave, assign Damage Control Repair Teams, Officers, and CPOs. (See Rule 7.7)

8. After assigning all Damage Repair Teams, Officers and CPOs resolve damage control attempts. (Rule 7.8)

    a. Deck Fires - (See Rule 7.8.1)

    b. Primary Compartment Repairs - (See Rule 7.8.2 and Table 20)

    c. Secondary Compartment Repairs - (See Rule 7.9)

    d. Gun Director Repairs - (See Rule 7.10 and Table 20)

    e. Ship's Radar - (See Rule 7.11 and Table 20)

    f. Waterline Repairs - (See Rule 7.12)

9. For each additional wave in this phase (Any waves still in the Wave Attack Box on the map)

    a. Repeat steps 4a., 4b., 6., 7., & 8. above.
    <u>Note</u>: Emergency (Evasive) Maneuvers are <u>ONLY</u> done <u>ONCE</u> per PHASE. (See Rule 6.9.B.)

    b. Unrepaired damage that remains after the last wave in the current phase carries over to the next Phase. If this is the last phase, carry damage into the next turn.

10. Check Hull Integrity at the end of each phase. (See Rule 7.3.Q)

C. End of Turn Additional Phase

1. Maintenance & replenishment -

    a. Check Morale (Rule 8.1 and Table 23)

    b. Check ammunition supply. (Rule 8.2 and Table 24)

    c. Check Fuel Supply. (Rule 8.3 and Table 24)

    d. Check Shipboard Radar. (Rule 8.4)

2. Repairs - (Rule 9)

    a. Determine repair time. (Table 18)

    b. Start the next game turn the day after number of repair days rolled on Table 18.

D. Proceed to Next Game Turn - Or determine victory as called for by scenario or campaign card.

17.0 Fletcher Class Destroyers that served on Picket Station Duty around Okinawa 1945

Ammen DD 527	Cassin Young DD 793	Hudson DD 475	Rowe DD 564
Anthony DD 515	Charles Ausburne DD 570	Ingersoll DD 652	Smalley DD 565
Aulick DD 569	Claxton DD 571	Irwin DD 794	Sproston DD 577
Bache DD 470	Cogswell DD 651	Isherwood DD 520	Stanly DD 478
Beale DD 471	Colhoun DD 801	Kimberly DD 521	Stoddard DD 566
Bennett DD 473	Converse DD 509	Knapp DD 653	Twiggs DD 591
Bennion DD 662	Cowell DD 547	Laws DD 558	Van Valkenburgh DD 656
Boyd DD 544	Daly DD 519	Little DD 803	Wadsworth DD 516
Bradford DD 545	Dyson DD 572	Luce DD 522	Watts DD 567
Braine DD 630	Evans DD 552	Morrison DD 560	Wickes DD 578
Brown DD 546	Foote DD 511	Picking DD 685	William D. Porter DD 579
Bryant DD 665	Fullam DD 474	Preston DD 795	Wren DD 568
Bush DD 529	Gregory DD 802	Pringle DD 477	Complement: 20 Officers, 309 enlisted men
Callaghan DD 792	Guest DD 472	Pritchett DD 561	
Caperton DD 650	H. L. Edwards DD 663	Richard P. Leary DD 664	

From: Kamikaze Attacks of World War II, by Robin L. Rielly, McFarland & Company, 2010.

18.0 Armament Variants for the Fletcher Class Destroyer

April 1942 – December 1943: Number of ships: 3

5-inch: 5 single mounts - 1.1 inch AA: 4 (quad mount) - 40mm: None - 20mm: 6-11 (single mounts) Torpedo Tubes: 10 (quintuple mounts) - Depths Charges: 2 tracks for 600lb charges, 6 projectors for 300lb charges

June 1942 – September 1943 Number of ships: 3

5-inch: 4 single mounts - 1.1 inch AA: None - 40mm: 2 (twin mount) - 20mm: 8 (single mounts)

Torpedo Tubes: 5 (quintuple mounts) - Depths Charges: 2 tracks for 600lb charges, 6 projectors for 300lb charges

June 1942 – August 1944 Number of ships: 33

5-inch: 5 single mounts - 1.1 inch AA: None - 40mm: 4 (twin mounts) - 20mm: 4-8 (single mounts) Torpedo Tubes: 10 (quintuple mounts) - Depths Charges: 2 tracks for 600lb charges, 6 projectors for 300lb charges

March 1943 – December 1944 Number of ships: 40

5-inch: 5 single mounts - 1.1 inch AA: None - 40mm: 6 (twin mounts) - 20mm: 6-11 (single mounts) Torpedo Tubes: 10 (quintuple mounts) - Depths Charges: 2 tracks for 600lb charges, 6 projectors for 300lb charges

July 1943 – mothballs Number of ships: 167

5-inch: 5 single mounts - 1.1 inch AA: None - 40mm: 10 (twin mounts) - 20mm: 7 (single mounts) Torpedo Tubes: 10 (quintuple mounts) - Depths Charges: 2 tracks for 600lb charges, 6 projectors for 300lb charges

June 1945 – mothballs - Number of ships: 53

5-inch: 5 single mounts - 1.1 inch AA: None - 40mm: 14 (2 quad & 3 twin mounts) - 20mm: 12 (twin mounts) Torpedo Tubes: 5 (quintuple mounts) - Depths Charges: 2 tracks for 600lb charges, 6 projectors for 300lb charges

Source: US Destroyers, 1942-45 by Dave McComb, Osprey Press, 2010.