

Spring 5-13-2016

Fighting for Survival: USS Yorktown (CV5) Damage Control Experiences in 1942

David L. Bergeron
University of New Orleans, New Orleans, dlbergerontx@aol.com

Follow this and additional works at: <https://scholarworks.uno.edu/td>



Part of the [Military History Commons](#)

Recommended Citation

Bergeron, David L., "Fighting for Survival: USS Yorktown (CV5) Damage Control Experiences in 1942" (2016). *University of New Orleans Theses and Dissertations*. 2125.
<https://scholarworks.uno.edu/td/2125>

This Thesis-Restricted is protected by copyright and/or related rights. It has been brought to you by ScholarWorks@UNO with permission from the rights-holder(s). You are free to use this Thesis-Restricted in any way that is permitted by the copyright and related rights legislation that applies to your use. For other uses you need to obtain permission from the rights-holder(s) directly, unless additional rights are indicated by a Creative Commons license in the record and/or on the work itself.

This Thesis-Restricted has been accepted for inclusion in University of New Orleans Theses and Dissertations by an authorized administrator of ScholarWorks@UNO. For more information, please contact scholarworks@uno.edu.

Fighting for Survival: USS *Yorktown* (CV5) Damage Control Experiences in 1942

Thesis

Submitted to the Department of History
University of New Orleans
in partial fulfillment of the
requirements for the degree of

Master of Arts
in
History

by

David Lee Bergeron
BA, Lamar University, 1972

May 2016

Acknowledgements

This work could not have been accomplished without the help of many individuals and organizations. The generosity of the Williamson Grant obtained through the University of New Orleans (UNO) History Department enabled me to explore the National Archives at College Park and Washington, D.C. The aid of archivist Janet Hodges and naval military consultant Nathaniel Patch of College Park were very helpful.

I thank The National World War II Museum historians Keith Huxen, Seth Paridon, and Joey Balfour for assistance in obtaining USS *Yorktown* (CV5) information before, during, and after the battle of Midway. I discovered the oral history of CV5 ship photographer Bill Roy with his unique perspective at Midway—his film and personal recollections indicate key details.

The advice and opinions of my UNO thesis advisory committee provided me with greater insights and vision. My chair was Dr. Allan R. Millett, and my committee members were Dr. Guenter Bischof and Dr. Robert Dupont. I deeply appreciate their investment in my goal of recognizing *Yorktown's* Damage Control crewmen. Additionally, the aid of my graduate school mentor, trailblazer and friend, Catherine Haws, is appreciated.

I wish to recognize the patience and love of my family during this journey. I offer thanks to my wife, Lee Ann for her help and tolerance during my days and nights of study and research. My daughters Carey and Jennifer are UNO alumni. They have provided me with inspiration, love, and faith in my goal. My mother, Janie has always been a beacon for me throughout my life to keep me moving forward and to always believe in myself. My dad Lawrence was a World War II veteran. He gave me an appreciation of that conflict's history and the will to never stop challenging myself. Finally, my granddaughter, Kaegan has emphasized to me that learning is fun. To these loved ones, I give my affection, respect, and gratitude.

Table of Contents

Nomenclature and Abbreviations	v
Abstract	vi
Introduction.....	1
Chapter 1—Evolution of Damage Control on USS <i>Yorktown</i> (CV5)	4
Chapter 2—Battle of Coral Sea and Pearl Harbor Repairs.....	10
Chapter 3—Battle of Midway and Loss of <i>Yorktown</i>	19
Chapter 4—Damage Control and Lessons Learned.....	28
Chapter 5—Conclusion.....	31
Bibliography	35
Appendix A—USS <i>Yorktown</i> (CV5) Ship Characteristics.....	39
Appendix B—USS <i>Yorktown</i> DC Subdivisions and Repair Party Locations.....	40
Appendix C—Yorktown CV5 Battle Damages.....	42
Appendix D—Executive Officer’s Report of [CV5 Midway] Action.....	46
Vita.....	60



Figure 1- Damage Control repairs CV 5 flight deck at Midway (from The National World War II Museum)

Table of Figures

Figure 1- Damage Control repairs CV5 flight deck at Midway	iii
Figure 2- Damage to CV5 port shell with lost rivets shown in bold	13
Figure 3- Butt welds are superior to either lap or fillet welds	15
Figure 4- Initial rivet process versus potential quick rivet repair	16
Figure 5- Pearl Harbor quick repair of damaged concave port side shell.....	18
Figure 6- CV5 quick acting scuttle in a watertight hatch	23
Figure 7- Capsized <i>Yorktown</i>	26
Figure 8- Tank flooding resulting from I-168 attack shown in yellow.....	26
Figure 9- <i>Yorktown</i> after being sunk.....	27
Figure A1- USS <i>Yorktown</i> CV5.....	39
Figure B1- CV5 Damage Control Forward	40
Figure B2- CV5 Damage Control Aft.....	41
Figure C1- Coral Sea Damage	42
Figure C2- Midway- <i>Hiryu</i> dive bombing attack	43
Figure C3- Midway- <i>Hiryu</i> torpedo attack	44
Figure C4- IJN I-168 Submarine fatal damage.....	45

Nomenclature and Abbreviations

Aft—toward the stern or the ship. Also known as abaft.

Amidship—the center portion of the ship between the bow and the stern

Bow—the forward most part of a ship

BuC&R—Bureau of Construction and Repair oversaw ship construction for the Navy

Bulkhead—a wall in a ship

BuShips—merged BuC&R and Bureau of Engineering to oversee USN design and construction

Butt weld—two flat plates that are joined with a full penetration weld resulting in the best bond

Centerline bulkhead—a bulkhead on the center of a ship which isolates port and starboard sides

CINCPAC—Commander in Chief of US Navy Pacific Fleet, Fleet Admiral Chester Nimitz

CO—the Commanding Officer of a ship is responsible for all aspect of ship management.

Condition Affirm (or Affirm)—prepare the ship for action by making closures watertight

Damage Control or DC Central—the hub of communication for the ship’s first responders

DC Repair Teams—first response teams of firemen, carpenters, electricians to save the ship

Deck—a floor in a ship

Emergency Breathing Device (EBD)—used during firefighting to prevent suffocation by CO₂

Forward—toward the bow of the ship

Fillet weld—a weld joining two metal surfaces that are not flat but are at an angle to one another

Fire/Boiler Rooms— the ship propulsion and power steam generation rooms

Flash gear—non-combustible apparel used by firefighters in combating flames

Flight Deck—topside deck of the ship used for aircraft launch and return

Frame—a frame is a rib of the ship. They are usually equal spaced in various locations.

Full penetration weld—the welding of two independent surfaces such that they are fully bonded

Hanger Deck—internal deck under the flight deck used for aircraft maintenance and repair

Knot—a nautical measure of speed equal to 1.15 statute miles per hour

Lap weld—a low strength weld at the intersection of two plates that overlap over each other

Navy Cross—second only to the Medal of Honor in military decorations

Navy Distinguished Service Medal—for exceptional duty in a position of high responsibility

Plug weld—a low strength weld that fills an opening such as a rivet opening in shell plate

Port—to the left of the ship while facing forward

Rivet—a metal fastener used on ships to join lapped plates with a mechanical bond

Ring weld—a weld that runs the circumference of a rivet. It is subject to cracking (failure).

Scuttle—a fast means of gaining access to a watertight area using a quick opening manway

Shell plating—the exterior skin of a ship that forms a watertight boundary for internal structure

Silver Star—third highest decoration awarded by the United States military

Sprinkling system—firefighting system using overhead fixtures to dispense water in a space

Starboard—to the right of the ship while facing forward

Stern—the after part of the ship that is opposite the bow

Task Force—an organization of naval ships usually revolving around one or more carriers

Turn of the bilge—portion of the ship that is the intersection of the ship’s side and bottom

Water curtain fire protection—a firefighting wall of water that segregates zones of the hanger

XO—EXecutive Officer is the second in command of the ship who supervises department heads

Abstract

This study reveals how the Pacific war changed at Coral Sea and Midway due to a little known but important cadre of sailors on USS *Yorktown* (CV5). Those US victories resulted from not only clever code breakers and courageous airmen but equally from the determined Damage Control (DC) crews aboard *Yorktown*. DC crews were the ship's first responders. They fought fires, kept power and propulsion operable, controlled the ship's stability, and patched her flight deck to keep aircraft flying. DC teams saved *Yorktown* multiple times, and their story is memorable for their contributions at Coral Sea and Midway. Without DC efforts, CV5 would not have participated in the battle of Midway. Without *Yorktown*, the commitment of only two American carriers (with one being virtually inexperienced) against four Japanese carriers with their skilled airmen would have yielded disaster for the United States at Midway instead of victory.

Keywords: USS *Yorktown* CV5; Damage Control; Coral Sea; Midway; Buckmaster; Aldrich

Introduction

A city cannot survive without a determined force of “first responders.” These vigilant individuals are trained to meet emerging catastrophic situations. A ship at sea is like a city. It is a self-sustaining entity for much of its life. A ship also requires a skilled set of technicians and craftsmen to contain or repair damages that may befall the vessel. A warship is particularly vulnerable to attack and thus the first responders or Damage Control (DC) crewmen are especially vital to survival.

From December 1941 to June 1942, the United States (US) experienced severe defeats. Japan overran Allied bastions, seizing Asian territory and resources. American battleships losses at Pearl Harbor necessitated reliance upon a small fleet of aircraft carriers— “a fleet in being”¹ which kept the Japanese from overwhelming the Pacific. One carrier, USS *Yorktown* (CV5), played a pivotal role in reversing American fortunes by mid-1942.

Among the critical engagements of World War II, the battles of the Coral Sea and Midway in the Pacific in May and June 1942, respectively, were decisive. They represent the climax of the Imperial Japanese Navy (IJN) offensive in the Pacific Ocean. Coral Sea and Midway were two naval battles in which surface ships fought but never saw each other. The naval offensive weapons were aircraft, not ships. At Midway, four Japanese carriers would be pitted against three American carriers with one, the USS *Hornet*, being inexperienced. Had CV5 not been in the fight, the odds at Midway would have been two to one against the United States. The outcome would have been cataclysmic for the Americans.

¹ Defined by Julian S. Corbett in *Some Principles of Maritime Strategy* (London: Naval and Military Press, 1911), on pages 167 and 211-228 as a fleet not strong enough to engage in a major encounter with the enemy. Rather, the fleet, in its weakness, can only harass the enemy in order to assert itself while not risking extermination. Refer also to Clark G. Reynolds, "The U.S. Fleet-in-Being Strategy of 1942," *The Journal of Military History*, Vol. 58, No. 1, January 1994, 103-118.

In studying this period, the researcher will discover the importance of the United States aircraft carrier USS *Yorktown* (CV5) and the story of the ship's recurring survival and contribution to the American victories at Coral Sea and Midway. The contribution of the DC crewmen aboard *Yorktown* to the American victory is noteworthy. Those crewmen assigned to Damage Control were the first responders on the ship. They fought fires, flooding, and structural damage that might make the ship inoperable. The DC crews quickly repaired damage to the flight deck where defensive air operations were essential for protection. The carrier's air group offensive strikes would be the key to victory. Those DC crewmen saved their ship not just once but several times after Japanese attacks during the battles of Coral Sea and Midway. The DC teams on *Yorktown* helped to change the tide of war in the Pacific. Their contribution in saving *Yorktown's* lives, as well as lessons learned from their struggles, are worthy of explanation.

The primary source materials on the Damage Control crews on USS *Yorktown* (CV5) have all but been overlooked by historians. The DC crews were highly capable and up to the challenges of both Coral Sea and Midway. Though seldom told in detail, the story is revealed through the use of archival Bureau of Construction and Repair (later the Bureau of Ships) reports, specifications and documents available in the National Archives and Records Administration at College Park, Maryland and in Washington, D.C. U.S. Navy after action reports from the Commander in Chief of the Pacific Fleet (CINCPAC), Task Force Commander, Commanding Officer (CO) and the Executive Officer (XO) for CV5 and other ship commanders during the battles are also available in College Park. Related *Washington Post* articles can also be found at College Park. A DC crewman's memoir and the ship photographer's oral history provide first hand accounts of the battles of Coral Sea and Midway. Archival photographs of *Yorktown's* damages are at College Park, as well as The National World War II Museum in New

Orleans, Louisiana. The *Yorktown*'s general ship drawings are available on the website for Historical Naval Ships Association and combat narratives written at the time are found on The Naval History and Heritage Command website. Figures on damages to CV5 based on after action reports are available on-line via the Battle of Midway Roundtable website. World War II DC Manual details are available on-line.

Secondary sources were examined to provide an understanding of the details of the battles. In so doing, Samuel Eliot Morison's multivolume history of the US Navy (USN) in World War II² in conjunction with works by authors John Toland,³ Walter Lord,⁴ Gordon Prange,⁵ John Lundstrom,⁶ Jonathan Parshall coauthoring with Anthony Tully,⁷ Craig Symonds,⁸ and Ian Toll⁹ provide some insight into DC efforts on *Yorktown*. Aircraft carrier technological advances leading to *Yorktown* DC can be found in several books that offer an appreciation of CV5 design development in support of DC.¹⁰

² Samuel Eliot Morison, *History of United States Naval Operations in World War II: Vol. IV Coral Sea, Midway and Submarine Actions* (Boston: Little, Brown and Company, 1949), and S.E. Morison, *History of United States Naval Operations in World War II: Vol XIV Victory in the Pacific 1945* (Champaign, IL: University of Illinois Press, 1960).

³ John Toland, *But Not in Shame: The Six Months After Pearl Harbor* (New York: Random House, 1961).

⁴ Walter Lord, *Incredible Victory: The Battle of Midway*. (New York: Harper Collins Publishers, 1967).

⁵ Gordon W. Prange, *Miracle at Midway*. Edited by Donald M. and Katherine V. Dillon Goldstein (New York: McGraw-Hill Publishing Company, 1982).

⁶ John B. Lundstrom, *The First Team: Pacific Naval Air Combat from Pearl Harbor to Midway* (Annapolis, Maryland: Naval Institute Press, 1984).

⁷ Jonathan Parshall and Anthony Tully, *Shattered Sword: The Untold Story of the Battle of Midway*. (Washington, D.C.: Potomac Books, 2005).

⁸ Craig L. Symonds, *The Battle of Midway* (New York: Oxford University Press, 2011).

⁹ Ian W. Toll, *Pacific Crucible: War at Sea in the Pacific, 1941-1942* (New York London: W.W. Norton & Company, 2012).

¹⁰ Norman Friedman, *U.S. Aircraft Carriers: An Illustrated Design History with Ship Plans by A.D.Baker III* (Annapolis, Maryland: United States Naval Institute, 1983), and William M. McBride, *Technological Change and the United States Navy, 1865-1945* (Baltimore and London: The Johns Hopkins University Press, 2000).

Chapter 1—Evolution of Damage Control on USS *Yorktown* (CV5)

The evolution of aircraft carrier damage control techniques that saved USS *Yorktown* twice in 1942 must be considered within the framework of geopolitical events of the period. The years between the First and Second World Wars saw changes in alliances, military strategy and naval arms races as well as technological advances in shipbuilding. The Five-Power Naval Limitation Treaty signed in Washington, D.C. in 1922 restricted US naval strength. Therein, the US, Great Britain, Japan, France and Italy agreed to limit displacement of warships with emphasis on aircraft carriers not exceeding 27,000 tons. This restricted armor protection. Other treaties and agreements set the ratio of ships between the US, Great Britain, and Japan to 5:5:3, respectively. As Clark G. Reynolds says, “The weight restrictions imposed by the treaties demanded economy through qualitative improvements to warship hull design: better steel and lighter alloys, arc welding instead of rivets, and fewer but larger boilers.”¹¹ Aircraft carriers became a focus in the arms race due to their mobility and power projection capability.

As William McBride states in his work on technology changes in the U.S. Navy: “During the late 1930s, independent carrier operations came to dominate U.S. naval thinking since carriers, tied to the battle line, were believed to be easy victims of enemy air attack.”¹² Although the small carrier *Ranger*, commissioned in 1934, was the first ship designed as an aircraft carrier, it would prove to be ineffective in combat because of its small size. The *Yorktown* and sister ship *Enterprise* became the first large US carriers to be designed from the keel up with a full set of carrier specifications and drawings. “Pairs of similar carriers were considered tactically superior and, in September 1931, the General Board [of the Navy] recommended construction of

¹¹ Clark G Reynolds, *Command of the Sea: The History and Strategy of Maritime Empires* (New York: William Morrow & Company, Inc., 1974), 484.

¹² William M. McBride, *Technological Change and the United States Navy, 1865-1945* (Baltimore and London: The Johns Hopkins University Press, 2000), 193.

two 20,000-ton carriers (*Yorktown* and *Enterprise*) in fiscal year 1933 [...] The *Yorktown* design was a compromise and outdated [due to limited displacement] by 1938.”¹³ In fact, Reynolds points out that by “the last week of 1936, Japanese obedience to the limitations [...] ended.”¹⁴ Nevertheless, the focus on damage control and related protective elements within the design of the carriers can be seen in the design specifications issued by the Bureau of Construction and Repair (BuC&R) within the US Navy. Examining the definition and detail in the specifications for CV5, the attention given to armor and firefighting are notable. There are extensive sections on the latter topic. Under the specification titles of “Damage Control—Flooding and Sprinkling Systems” and “Fire Systems” the 1934 specifications on *Yorktown* indicates attention to the details of damage control for magazine flooding, hanger sprinkling, and water curtain deluge systems, as well as firefighting on the ship.¹⁵

Emphasis on survival of the ship after enemy attack came to be known as “damage control.” Naval Academy textbooks in the 1920s and 1930s taught midshipmen the importance of keeping their warship in the fight despite injury. One such book used during the construction of CV5 was *Principles of Warship Construction and Damage Control*:

In the ten years since the first edition of this book was published, the question of damage control, that is, the operation of a warship so as to preserve the fighting efficiency when the hull has been damaged by enemy attack, has slowly but certainly assumed a dominant position in the minds of naval personnel commensurate with its importance as a decisive factor in modern naval warfare. The development of this phase of naval operations has now reached such a stage that a comprehensive understanding of the principles of damage control is an essential part of the training of the young, as well as the experienced, naval officer.¹⁶

¹³ McBride, *Technological Change*, 194.

¹⁴ Reynolds, *Command of the Sea*, 483.

¹⁵ *Detail Specifications for Building Aircraft Carrier No. 5--YORKTOWN/No. 6 ENTERPRISE for the United States Navy*. Pull slip RG19/470/30/11, Box 8-9 (Navy Department Bureau of Construction and Repair, February 15, 1934), National Archives and Records Administration at College Park, MD [hereinafter cited as NACP].

¹⁶ G C Manning and T L Schumacher, *Principles of Warship Construction and Damage Control* (Annapolis: United States Naval Institute, 1924, 1928, 1930, 1935, reprinted 1939 with corrections), x.

It is indicative of the unforeseen significance of American aircraft carriers that the extent of information dedicated to that vessel type is so miniscule. Strikingly, in *Principles*, aircraft carriers follow battleships, cruisers, destroyers and submarines in the discussion. Only monitors, a simplified warship, follow carriers in the damage control book. Indeed, there is a 20 page chapter devoted to submarines in *Principles*.¹⁷ Meanwhile, with only peacetime experiences with *Langley*, *Lexington*, *Saratoga* and *Ranger* available at the time of publication, carriers bore mentioning only as an afterthought following battleship rules. In a nod to future developments, the authors recognized that the “protection of aircraft carriers is not as yet clearly established.” They continued “It is possible, if not probable, that aircraft carrier protection will eventually equal that now given battleships.”¹⁸ Carriers would come to dominate the seas in critical battles fought with aircraft. The airplanes flown from carriers would carry armor piercing bombs for dive bombing and deadly torpedoes to penetrate the opposing ship’s side plating to cause flooding of internal spaces. To lessen the impact of damages, the watertight design of the CV5 was critical as were the trained DC crews positioned in multiple areas of the ship.¹⁹ These men were poised to act quickly in times of danger. They were to battle water intrusion and reduce dangers from spreading fires after ignition of combustibles within the vessel. Combustibles and vapors on warships were an issue as Parshall and Tully state in their seminal work on Midway and the downfall of Japan’s *Kido Butai*.²⁰

Damage-control lockers themselves contained wood beams for shoring, and additional shoring material was usually stowed in the overheads of companionways and anywhere else sufficient space could be found. [... Ships had

¹⁷ Manning and Schumacher, *Principles of Warship Construction*, 367-386.

¹⁸ Ibid, 258. The *Essex*-class carriers were not authorized by the Naval Expansion Act until May 1938. By Pearl Harbor, eleven *Essex*-class carriers were authorized for construction with two more added immediately after.

¹⁹ See Appendix B for the *Yorktown*’s damage control transverse bulkhead and deck configuration. The figures also show the locations of the five area-centric Damage Control teams, as well as critical other locations for DC.

²⁰ *Kido Butai* was the Imperial Japanese Navy’s (IJN) First Air Fleet during World War II. It was comprised of aircraft carriers *Akagi*, *Kaga*, *Soryu* and *Hiryu* with their respective fighter, dive bomber and torpedo attack bomber aircraft. The *Kido Butai* along with two other IJN carriers, the *Zuikaku* and *Shokaku*, had attacked Pearl Harbor.

large amounts] of paper—reports, forms, charts, manuals, and blueprints [...] Far and away the worst fire hazard for carriers, though, was their aircraft fueling system.²¹

Stanford Linzey was a second class petty officer onboard the *Yorktown* during the battle of Midway. He was a musician in the ship's band, but during times of enemy threat, he was assigned to DC Repair Party IV as a sound powered telephone talker for communication between the DC crew and Damage Control central operating station.²² The sound powered phone that Linzey used was fully capable of communication even after onboard power loss. Linzey said

Repair parties are located throughout the ship to assess and repair damage to the ship afloat and steaming. They fight fires, shore up bulkheads, patch holes, keep firefighting equipment operating, keep electrical systems operable, and the like....Prior to battle, I thought the task would be nearly impossible, because I had to remember frame and hatch numbers plus other commands back and forth. No mistakes were allowed. However, once the battle began, I was surprised at how easily it came after all the training and practice. ... During the battle, the men lie on or sit on the deck. If they were to stand up, they could break their necks on the overheads if the ship were to lurch violently due to explosions.²³

Yorktown CV5 had five area-centric damage control teams spread through the ship, plus one gasoline repair party for ship wide coverage of gasoline fires. Before the war, it was debated whether the full DC outfitting of the fifth crew was even necessary. The commanding officer of *Enterprise* (sister ship to *Yorktown*) stated the significance of outfitting the deck lockers for Repair (DC) V.²⁴ Concurrence was forwarded by Admiral William F. Halsey, as commander of Carrier Division TWO.²⁵ Consequently, BuC&R issued an approval for addition of the locker

²¹ Parshall\Tully, *Shattered Sword*, 244.

²² Roman numerals will be used to identify the DC repair team(s) unless a quotation from a source specifically used Arabic numbers. A DC repair team is also referred to as a repair party or DC team.

²³ Standford E. Linzey, *USS Yorktown at Midway: The Sinking of the USS Yorktown (CV-5) and the Battles of the Coral Sea and Midway* (Maitland, FL: Xulon Press, 2004), 86-87.

²⁴ CO USS *Enterprise* CV6 to Chief BuC&R, Subject: Damage Control Gear Locker for Repair V (Engineer Repair Party), December 21, 1938, Serial CV6/S29 (50-tro) (1467), Bureau of Construction and Repair Confidential Files 1925-1940 CV5-6/S88-2 to CV6/S88-3, RG19, Box 81 [hereinafter cited as BuC&R Confidential 1925-1940], National Archives Building, Washington, D.C. [hereafter cited as NAB].

²⁵ CO Carrier Division TWO, Subject: Damage Control Locker for Repair V, April 19, 1939, serial S29/FF11-2 05-Br Serial No. 099, BuC&R Confidential 1925-1940, RG19, Box 81, NAB.

and its outfitting for DC station V.²⁶ Ironically, DC Repair V on *Yorktown* would suffer a tragic end at the battle of Coral Sea as will be seen later in this analysis.

Having multiple DC crews at various locations throughout the ship necessitated close coordination to prevent overlaps and wasted efforts. “Communication facilities adequate to permit the Damage Control Officer to assume proper control of the damage control activities” became the emphasis as early as 1933. The same correspondence reinforced the importance of streamline communication in ballasting for stability with “fourteen different manifolds, each in a separate compartment [...] It appears essential, therefore, that complete communication facilities be furnished from the central station (Damage Control Officer) to each of these manifolds as well as to the repair parties on the damage control deck.”²⁷

Admiral Halsey emphasized damage control coordination and communication when he sent a message to the Bureau of Ships (BuShip)²⁸ which required consolidation of fueling and ballasting officers in the damage control central office. This colocation facilitated both stability of the vessel and transfer of fuel and ballast during DC operations. The close coordination reduced the chance of lost ship stability following damages to fuel tanks bounded by the shell of the ship. In Halsey’s correspondence he stated that for communication of repair priorities and reduction of command conflicts “In accordance with the existing damage control instructions [...]

²⁶ BuC&R to BuEng, Subject: U.S.S. YORKTOWN and U.S.S. ENTERPRISE—Damage Control Locker for Repair V, May 20, 1939, Serial CV6/S88-3(C&DC)—CV5/S88-3, BuC&R Confidential 1925-1940, RG 19, Box 81, NAB.

²⁷ Superintending Constructor, U.S.N. to BuC&R, Subject: CV5 and CV6 Proposed Damage Control Systems, 5 December 1935, Serial CV5&6/S1-1-2, Bureau of Construction and Repair General Correspondence 1925-1940 CV4/S 92 to CV5 & 6 A6, RG 19, Box 1709 [hereinafter cited as BuC&R General 1925-1940], NAB.

²⁸ The Bureau of Ships (BuShips) resulted from the merger of the Bureau of Construction and Repair (BuC&R) along with the Bureau of Engineering in 1940. The US Navy agency is responsible for oversight of design and construction of naval ships in government and civilian shipyards.

In the YORKTOWN class the use of central [DC] station with its superior communication facilities [...] is superior to other possible locations.”²⁹

Additionally, damage control and ship survivability benefitted from small but critical changes in various details. Emergency breathing gear improvements, flight deck repair equipment upgrades, and addition of quick acting scuttles³⁰ in watertight or gastight hatches are evidence of DC enhancements. For instance, the increase in emergency breathing equipment for each of *Yorktown*'s repair (damage control) parties improved repair party survivability.³¹ This would be essential for providing oxygen to firefighters in heavy smoke areas. Another example is the added equipment for transferring fuel and aviation gas to quickly defuel onboard aircraft for CV5. The *Yorktown* CO recommended this reform.³² Elimination of this highly combustible gasoline would benefit the firefighters later after attack. Fire containment was a vital success story for CV5 DC crews.

The best defense is a good offense. Thus, the *Yorktown* had combat air patrols of F4F-4 fighters as the first line of protection. CV5 also had an arsenal of defensive weaponry to shoot down attacking enemy aircraft. Upgraded since its original design but still in transition to more sophisticated weaponry, *Yorktown* had eight 5"/38 caliber guns, four Quad 1.1 inch mounts, and twenty four 20 mm machine cannons. Further, CV5 had a technologically advanced radar (the CXAM prototype) and communications equipment to coordinate the ship's defense.³³ The DC crews were the last line of defense to save CV5. They nearly succeeded at Midway.

²⁹ Commander Aircraft, Battle Force U.S.S. YORKTOWN, Flagship to Chief BuShips, Subject: CV5 and CV6 Telephone System, 29 October 1940, Serial S71/23-Tn/FF2-3, Bureau of Ships General Correspondence 1940-1945 to C-CV5-6/S1 to CV5/L9, RG19/1266/710 [hereinafter cited as BuShips General 1940-1945], NACP.

³⁰ A scuttle is a fast opening watertight manway. Here, it is inserted into a large watertight hatch for fast access.

³¹ Bureau of Ships to et al., Subject: CV5 and CV6 Hull Allowance List, 9 April 1941, Serial CV5/L7, CV6/L7(ME), RG19/1266/710, BuShips General 1940-1945, NACP.

³² CO USS *Yorktown* CV5 to Chief of BuShips, Subject: CV5 Alteration Request No. 1-42, February 11, 1942, Serial CV5/S15/L9-3/(MEA-95-Me), RG19/1266/710, *BuShips General 1940-1945*, NACP.

³³ Friedman, *U.S. Aircraft Carriers*, 97.

Chapter 2—Battle of Coral Sea and Pearl Harbor Repairs

Admiral Jackie Fisher, the First Sea Lord of England in the early twentieth century, was tasked with standardizing and modernizing the Royal Navy. In the process, he proclaimed that “Speed is Armor.”³⁴ The battle of Coral Sea highlighted Captain Elliot Buckmaster’s seamanship as he avoided eight Japanese torpedoes, using *Yorktown*’s maneuverability and speed as an effective means to avoid damage.³⁵ Bill Roy, ship’s photographer, observed “Captain Buckmaster go out on [...] the bridge [the ship’s island] and give orders for hard to starboard [turn right] or hard to port [turn left ... he] ...was one of the greatest seamen.”³⁶ According to Stanford Linzey, “Captain Buckmaster had been a destroyer skipper as a junior officer, and in the battle of the Coral Sea, he handled the large carrier as if it were a small destroyer [...] in spite of its huge size, the *Yorktown* dodged and missed all [eight Japanese] torpedoes.”³⁷ Linzey described Buckmaster as “respected by the officers and men [...] having escaped the torpedo attack.”³⁸

Although all the torpedoes missed the ship, there was one direct aerial bomb hit on *Yorktown*. Importantly, there was a near miss by a bomb off the ship’s port side.³⁹ The former caused significant internal damages while the latter split the exterior plating of the carrier open and damaged internal back up structure that gave the shell its strength. The hull of the CV5 was contained on the exterior by the shell plating. The shell plating kept the internal hull watertight. To provide strength to the exterior of the hull (the shell plating), there were frames, bulkheads, and decks internally. The shell on a ship is only as strong as the internal backup structure behind

³⁴ Quoted in McBride, *Technological Change*, 111. The First Sea Lord was senior uniformed head of the Royal Navy, but worked for the civilian First Lord of the Admiralty.

³⁵ Buckmaster would earn a Navy Distinguished Service Medal for his command at Coral Sea and Midway.

³⁶ Bill Roy interview The National World War II Museum, <http://www.ww2online.org/>, 25 August 2015 [hereinafter cited as Roy interview, NWWIIM].

³⁷ Linzey, *USS Yorktown*, 88-89.

³⁸ *Ibid*, 101.

³⁹ The BuShip look at Coral Sea damages is shown in Appendix C—Figure C1.

it. If that internal structure is collapsed or weakened, as was the case with the near miss on the port side of *Yorktown* at Coral Sea, the shell is weak and subject to failure in a battle condition. The role that the shell damage played in *Yorktown*'s demise will be investigated later. Another near miss on the ship's starboard side was inconsequential.⁴⁰

Roy saw the bomb that was a direct hit. He observed that "one bomb did go down to the 4th Level and [it] killed about 44 [men in a] ship repair party with flash suits and tools."⁴¹ According to Stanford Linzey, who was serving in DC Repair Party IV, "most of Repair Party 5 was wiped out [...further] had that one bomb fallen only a few feet abaft [to the rear of] Repair Party 5, it would have fallen on [...] Repair Party 4, and [they] would have been the ones to suffer the casualties."⁴² Linzey described the DC actions in this area of the ship. He said "Planking was placed over the hole in the compartment so we could walk back and forth to carry out our duties. The pungent smell of burnt flesh, sweet and nauseous, was sickening."⁴³ In assessing the local damage, he said "Bulkheads were damaged, watertight doors were blown off their hinges, and fires were burning in the stores compartments. Smoke filled our section of the ship. Electric cables had been severed, so we were in complete darkness."⁴⁴

In his "War Damage Report" on the battle of Coral Sea, Buckmaster states

Action taken to localize effects- Since the ship's shell had not been pierced nor ruptured by the [direct hit] explosion, fire and internal flooding were the major effect to immediately control. Prompt action by the hangar repair party in quickly using fire hoses down through the bomb hole in the hangar and No. 2 elevator pit quickly brought the fire below deck under control. The Engineer Repair Party, Repair 5[...] was completely wiped out with the exception of several wounded men. The Midship Repair Party, Repair 4, sent a fire party with rescue breathers into the [Repair V] smoke filled damaged compartment[...] cleared the wreckage

⁴⁰ CO USS *Yorktown* CV5 to Chief of BuShips, Subject: "War Damage Report" dated 20 May 1942, serial CV5/S88/A9/(CEA-50-swg), Pull Slip RG19/470/30/15/04, Boxes 80-81, Records of the Bureau of Ships, War Damage Reports and Related Records, 1942-1949 (hereinafter cited as War Damage Reports 1942-1949), NACP.

⁴¹ Bill Roy interview, The National World War II Museum.

⁴² Linzey, *USS Yorktown*, 91.

⁴³ *Ibid.*

⁴⁴ *Ibid.*, 90.

and personnel casualties, then sent a man through the bomb hole down into [another compartment] where he extinguished the smoldering stores. The sprinkler damage control system in [that area] though badly twisted and ruptured by splinters assisted in quenching the storeroom fire[...] The damaged [electrical] circuits caused several repairmen to suffer from slight shocks until the circuits were cut at the Distribution Board.⁴⁵

The “near miss” on the port side was more consequential to CV5 seaworthiness. The United States Navy had conducted trials in the interwar period to determine the feasibility of successful aerial attack against warships. In 1920, the German *Ostfriesland* with nearly 2” of armored deck could not withstand direct bomb hits.⁴⁶ Nevertheless, because of Treaty limitations, aircraft carriers for the US had no armor decks. More germane, the dangers of a near miss were identified as far back as 1924 when bombs were dropped near the battleship *Washington* “to evaluate the effect of underwater explosions caused by near misses of aerial bombs. Because of their intense pressure wave, the [near misses] were considered *more dangerous* [emphasis added] than direct hits.”⁴⁷ This was shown on the port side of *Yorktown* at Coral Sea where the side shell plating and rivets were ripped apart. The ship’s longitudinal torpedo bulkheads limited flooding. That extra protection inboard of the shell acted as a buffer between any shell penetrations and flooding of internal work spaces. The shattered internal shell support structure could not be replaced in a limited drydock duration. Commander in Chief Pacific Fleet Admiral Chester Nimitz had directed *Yorktown* be seaworthy within 72 hours of arrival at Pearl Harbor. Nimitz had to provide as many deck loads of aircraft as he could against the projected Japanese onslaught at Midway. There was no time for *Yorktown* to linger in the dry dock at Pearl Harbor. As a consequence, critical internal support never saw repair. There was simply insufficient time to do the total repair job.

⁴⁵ War Damage Reports, NACP.

⁴⁶ Friedman, *U.S. Aircraft Carriers*, 83.

⁴⁷ McBride, *Technological Change*, 147.

In Buckmaster's after action report on Coral Sea, he provided the Figure 2 illustration.

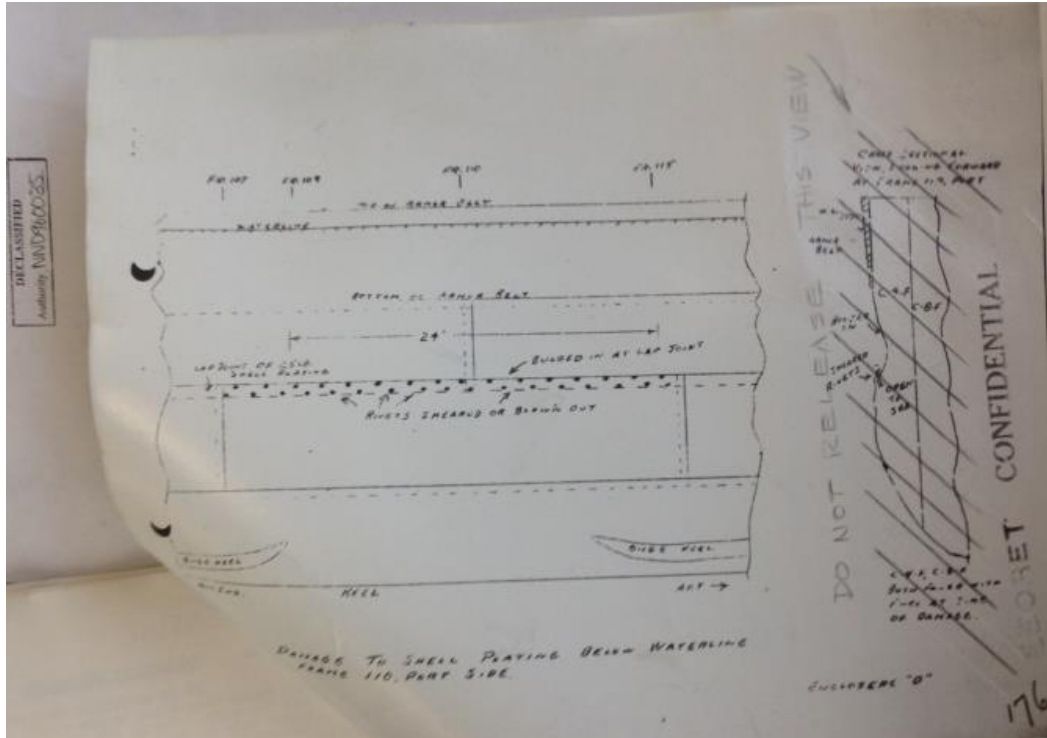


Figure 2- Damage to CV5 port shell with lost rivets shown in bold (from NACP)

In that same report, Buckmaster described *Yorktown's* portside damage shown in Figure 2 stating

One near miss from a bomb of weight estimated between 500 and 1000 lbs. released by a dive bomber exploded below the surface about twenty feet outboard of the hull abreast frame 110, port side.⁴⁸ The three outboard fuel tanks [...] extending from frame 99 to frame 117, and filled with fuel, developed leaks to the sea. Investigation by a diver revealed that the outer plating had been sprung and pushed in at the first riveted lap joint below the armor belt. The major damaged area of ... shell plating extends from Frame 109 to frame 115, a fore and aft length of 24 feet. Rivets in the lap joint in the damaged area are either sheared or blown completely out.⁴⁹

Captain Buckmaster's after action recommendations received a mixed reaction.⁵⁰ BuShip provided an alternate rescue breathing gear. The Bureau disagreed with providing added compressed air pumps to overcome loss of electricity because air system piping was vulnerable

⁴⁸ A frame can be likened to a rib of a ship. The keel is the spine of a ship.

⁴⁹ CO USS *Yorktown* CV5 to Chief of BuShips, Subject: "War Damage Report" 20 May 1942, serial CV5/S88/A9/(CEA-50-swg), Pull Slip RG19/470/30/15/04 Boxes 80-81, *War Damage Reports 1942-1949*, NACP.

⁵⁰ Ibid.

to battle injury and too costly to install. The suggestion for anti-flash gear for the DC crews was accepted with a 105% allowance for the repair crews. Deferral of rubber boots for DC crewmen to avoid electrical shock resulted from a short supply of rubber. The color variation for compartment light panels aided in controlling electrical power shocks for DC crewmen. Ship's crew would be assigned to paint the panels.⁵¹

While *Yorktown* sailed back to Pearl Harbor for repairs, supervision of the Navy Yard repair crews began preparations to hastily patch the damages. DC crews and other ship's force members had begun the arduous task of damage removal and clean up. Cleaning of the fuel in the tanks where the near miss bomb had ruptured the shell had to be completed before the arrival in Pearl Harbor. First, the fuel had to be pumped out of the damaged and adjacent areas, and then the fuel vapors removed through force draft ventilation. There could be no burning or welding in those tanks unless the vapors were removed. To do otherwise might risk an explosion of disastrous consequence. In those tanks, as well as decks and bulkheads damaged by the bomb hits, uneven plate surfaces were cropped away to temporarily cover with wood until steel plates could be laid on top with steel support installed underneath the plating at the dry dock at Pearl. The shell seams on the port side in way of the near miss were another issue. Because of the urgency to get *Yorktown* back on line before the battle at Midway, rivets could not be reinstalled. To expedite the repair, it was necessary to weld in lieu of riveting the damaged steel. Welding is much quicker and involves less manpower than riveting; however, this repair shortcut resulted in the creation of a weakness in the restored shell plating. The chemical element composition of the plating being rejoined was not necessarily conducive to good weld penetration. In fact, the lapped shell plate fillet welding and rivet plug welding performed were simply stopgap methods

⁵¹ BuShips *U.S.S. Yorktown Bomb Damage May 8, 1942, War Damage Report No. 23*, 28 November 1942, Pull Slip RG19/470/30/15/04 Boxes 80-81 [hereinafter cited as BuShips Damage Report, 28 November 1942], *War Damage Reports 1942-1949*, NACP.

used to expedite tightness on the ship. Welding strength is normally dependent on steel having low carbon content. With the riveting process, there is a mechanical rather than welded bond so that the carbon content is not as critical. As a result, the port side repairs, although visually acceptable, would not be strong. A full penetration butt weld on shell plate is preferable to a fillet weld. Both of these two weld types would be superior to a poorly bonded lap weld as was likely the situation with the quickly repaired 24' of shell plating on *Yorktown's* port side. The lapped shell repair seen in Figure 3 lower right would be subject to failure in combat.⁵² The duration of the repair would only be sufficient until the first instance of another near miss or direct hit in the vicinity of the repaired shell plating. Either of those circumstances would result in a reopening of the gash on the ship's side.

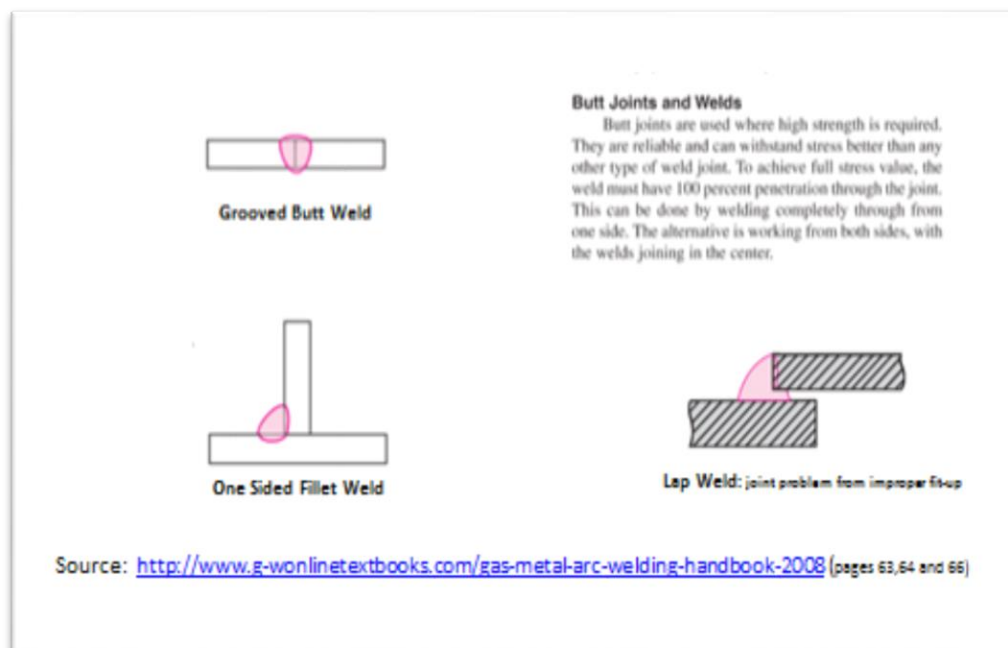


Figure 3-Butt welds are superior to either lap or fillet welds (from *Welding Fundamentals, 5th Edition*)

⁵² William H. Minnick, *Welding Fundamentals, 5th Edition*, 2008 (Goodheart-Wilcox, On-line Publisher. <http://www.g-wonlinetextbooks.com/gas-metal-arc-welding-handbook-2008>), 63, 64 and 66 (accessed October 25, 2015).

Figure 4 will show an initial rivet process similar to that used to mechanically join the *Yorktown*'s shell plate.⁵³ The lower right of Figure 4 shows a theorized type of repair possible within the CINCPAC time constraint for the many lost rivets requiring repair in just one or two days in the Pearl Harbor drydock. The ring welding was subject to cracking (failure). To comply with the urgency of Admiral Nimitz directive, the solution was to dispense with a four man crew to repair a rivet for one welder to repair the missing rivet. Welding would save time at the expense of the longevity of the repair.

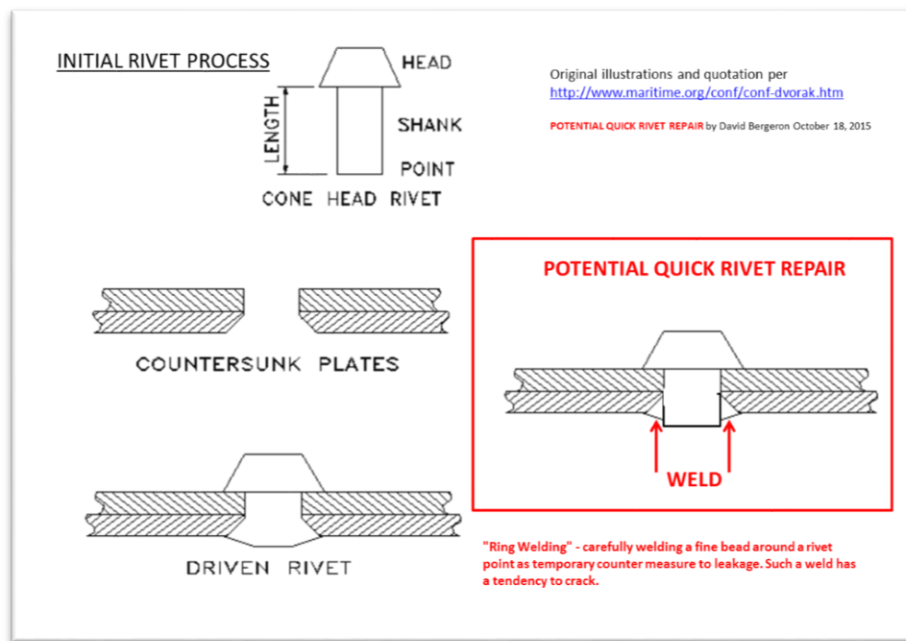


Figure 4- Initial rivet process versus potential quick rivet repair (from *Repair Techniques of Riveted Vessels*)

Additionally, removal and subsequent replacement of internal support structure damaged by the portside near miss concussion and concave effect on the shell never happened due to time constraints. Nevertheless, at Pearl Harbor's Dry Dock "Hundreds of men [...] swarmed over the *Yorktown*—she seemed even more alive out of the water than afloat. Clouds of smoke poured up

⁵³ San Francisco Maritime National Park Association: *Repair Techniques of Riveted Vessels*. July 7, 1997. <http://www.maritime.org/conf/conf-dvorak.htm> (accessed October 18, 2015).

from the acetylene torches burning away her damaged plates. The clatter of drills and hammers never stopped.”⁵⁴ Indeed to show how critical the deadline was “[t]here was no time for plans or sketches. The men worked directly with the steel beams and bars brought on the ship. Coming to a damaged frame, burners would take out the worst of it; fitter would line up a new section, [and] cut it to match.”⁵⁵

The BuShip report on the CV5 repair at Pearl Harbor stated:

The vessel was available at the Navy Yard, Pearl Harbor, for slightly more than 48 hours to allow temporary repairs. During this period, demolished and damaged structure was replaced by material having equivalent weight, strength and [geometric properties]. In way of the near-miss damage to the port side, frames and transverse floors between the shell and number 1 bulkhead [torpedo bulkhead] were not replaced as enough material remained to hold the shell in place. The shell was repaired by caulking and welding the leaky seam and rivets...⁵⁶

The BuShip report goes on to state “All watertight doors and hatches below the main deck were repaired and tested for watertightness... [and] ...all essential watertight boundaries on second deck and below were restored.”⁵⁷

Stanford Linzey stated “Work on the ship ... continued around the clock. Welders with torches, electricians, and hull technicians swarmed like ants over, around, and under the great ship to try to put us back in battle order.”⁵⁸ After the massive repair effort,

Yorktown came out of the dry dock as scheduled. The hull had been repaired, the third deck had been patched, the electrical systems were spliced, and the watertight doors and hatches had been replaced. However, three boilers [of nine] still were left inoperable because there was not enough time to repair them.⁵⁹

⁵⁴ Walter Lord, *Incredible Victory: The Battle of Midway*. (New York: Harper Collins Publishers, 1967), 36.

⁵⁵ *Ibid.*

⁵⁶ BuShips Damage Report, 28 November 1942, *War Damage Reports 1942-1949*, NACP.

⁵⁷ *Ibid.*

⁵⁸ Linzey, *USS Yorktown*, 102

⁵⁹ *Ibid.*

Yorktown's speed would not be an advantage for Buckmaster at Midway.⁶⁰ Linzey and the crew knew “Buckmaster had saved our lives by [...] maneuvering the great ship and avoiding the torpedoes, but now we were underpowered and incapable of such action. [We hoped] the battle would end before the Japanese would locate our damaged ship.”⁶¹

Ian Toll succinctly summarized the *Yorktown* repair when he said, Pearl Harbor “would meet the deadline not by completing the needed repairs quickly, but by not doing them at all [...] It was an interim patch-up job rather than a proper restoration of the ship, but the *Yorktown* would be battleworthy for the coming campaign.”⁶² Although nominally “battleworthy” after Pearl Harbor repairs, CV5 survivability under a severe attack would be problematic. The port shell repairs were vulnerable as can be seen in Figure 5 where the shell plating is concave after removal of internal support.⁶³ Midway would put the CV5 DC crews to their ultimate test.

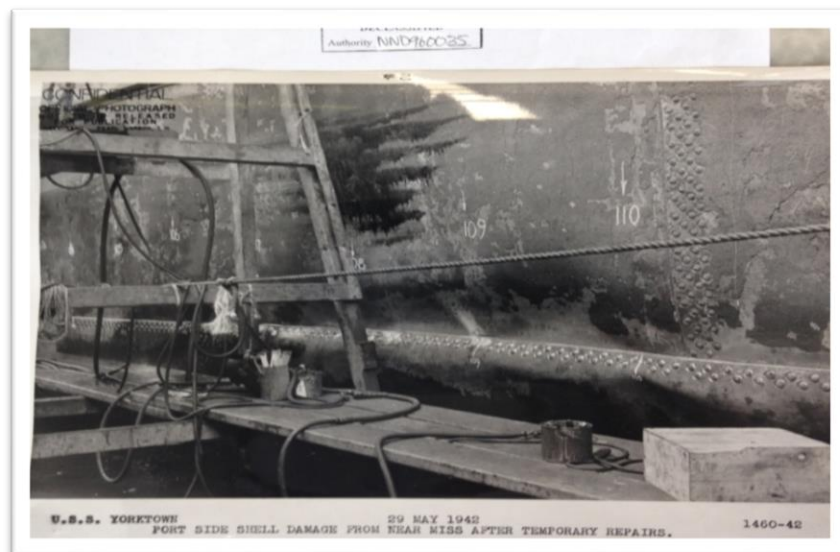


Figure 5- Pearl Harbor quick repair of damaged concave port side shell (photo from NACP)

⁶⁰ According to Buckmaster's after action report, boilers #7, 8, and 9 were secured and out of commission due to the direct bomb hit at Coral Sea. The noxious smoke and gases plus burner flarebacks resulted from the effect of the concussion. Time limitations in the Pearl Harbor dry dock prevented the repair of the three boilers.

⁶¹ Linzey, *USS Yorktown*, 106-107

⁶² Toll, *Pacific Crucible*, 397

⁶³ BuShips Damage Report, 28 November 1942, *War Damage Reports 1942-1949*, NACP.

Chapter 3—Battle of Midway and the Loss of *Yorktown*

The battle of Midway in early June 1942 would represent one of the US Navy's greatest victories. The island of Midway stood as an unsinkable aircraft carrier with over one hundred various Marine, Army and Navy aircraft stationed there. There were three US carriers, *Yorktown*, *Enterprise*, and *Hornet* facing four *Kido Butai* IJN carriers with their skilled crews and airmen. *Yorktown* played a pivotal role in the first day as its airmen led by Lieutenant Commander Maxwell Leslie sank one of the Japanese carriers outright.⁶⁴ The *Enterprise* flyers sank two more IJN carriers thus leaving only one enemy carrier against three US carriers. The odds had turned in the favor of the USN. Had *Yorktown* not been repaired at Pearl and appeared off Midway, the odds after the first morning would have been much different. Two capable Japanese carriers would have faced two American carriers with one, the *Hornet*, being new to the battlefield and thus inexperienced except for the daring 1942 raid on Tokyo. *Hornet's* air group did not even find *Kido Butai* on the first morning except for the ill-fated Torpedo Squadron VT8. VT8 lost all of its 15 aircraft and all but one of its airmen in its bold torpedo run on the IJN.

Nevertheless, after the American morning attack of June 4, 1942, the surviving Japanese carrier *Hiryu* launched a retaliatory attack later in the same day. In so doing, the assault was uncoordinated. Instead of using dive bombers in collaboration with torpedo aircraft, the dive bombers were sent ahead of the torpedo planes. The first carrier sighted was the *Yorktown*.

Stanford Linzey heard the call for action stations and "All of us ran to our battle stations on the double [...] 'Set material condition to affirm,' said the speaker. That meant close all

⁶⁴ According to *Military Times: Hall of Valor*. n.d. <http://valor.militarytimes.com/about.php> (accessed October 17, 2015) [hereinafter cited as *Hall of Valor*] "Max" Leslie was awarded the Navy Cross for his actions at Midway. Leslie's VB3 along with John "Jimmie" Thatch's VF3 from *Saratoga* were assigned to *Yorktown* after Coral Sea. The USN manpower flexibility sharply contrasted with the IJN. The *Zuikaku* did not participate in Midway because its airmen were decimated at Coral Sea. Replacement IJN crews from the damaged *Shokaku* could have augmented her sister ship to replace its lost airmen, but they were not transferred. Footnote 68 will show USN crew flexibility with the rapid replacement of *Yorktown's* lost Repair Party V prior to Midway.

watertight doors and hatches against flooding and cut off all ventilation. Put on flash-proof clothing.”⁶⁵ Then the Japanese dive bombers came. Suddenly, “the ship lurched beneath us as three bombs hit [...] and there were several near misses that shook us hard. One bomb set a fire on the hanger deck and another exploded right in the stack and snuffed out the fires in the boilers, putting them out of commission”⁶⁶ (see Appendix C—Figure C2).

Parshall and Tully paint a graphic picture when they explain that

Yorktown was crippled, drifting, with thick clouds of black smoke trailing from her innards. Her fires were serious, with damage-control parties busy in several places belowdecks. Down in her engine spaces, workmen were trying their best to bring at least some of her boilers back on line, despite the damage to her uptakes. *Yorktown*'s flight deck was also holed from bomb hits, and crews were scurrying to jury-rig patches using wooden beams and steel plates to cover her wounds [see Figure 1]. All in all, she was a mess.⁶⁷

According to the CO, the Flight Deck Repair crew patched the holes from the direct hits. Fires were nearly all put out by Repair I, II, III and VII⁶⁸ by an hour and a half after the dive bombing. The water curtain system in the hangar deck had worked well. CV5 had been making 25 knots prior to the attack. With the boilers extinguished by bombs hitting the exhaust uptakes, it took the engineering repair crew just one hour to get her back up to 23 knots, a moderate yet respectable speed.⁶⁹ Bill Roy remembered that the repair party patched the flight deck by using temporary underdeck structure and a plate lying on top of the deck resulted in only a “bump” on the flight deck for the aviators.⁷⁰ The deck was ready for business again in less than one hour after the attack. Linzey said “As we lay dead in the water, the engineers worked feverishly and

⁶⁵ Linzey, *USS Yorktown*, 112.

⁶⁶ Linzey, *USS Yorktown*, 113.

⁶⁷ Parshall/Tully. *Shattered Sword*, 298.

⁶⁸ *Yorktown* originally had six damage control crews (five area-centric and one for gasoline fires). It is likely that the loss of Repair V at Coral Sea due to the direct bomb hit resulted in a temporary Repair VII being mobilized.

⁶⁹ CO USS *Yorktown* CV5 to Chief of BuShips, Subject: War Damage Report, 18 June 1942, serial CV5/A16-3 (CCR-10-per) [hereinafter cited as CO War Damage], *War Damage Reports and Related Records, 1942-1949*, pull slip RG19/470/30/15/04 Box 80-81 [hereinafter cited as *Damage Records 1942-1949*], NACP

⁷⁰ Roy interview, NWWIIM.

cross-connected the steam plant [and ...] we were able to get underway again.”⁷¹ Boilers were up and the ship was capable of 23 knots compared to full ahead of 30-33 knots--nearly two thirds speed.⁷² With fires extinguished, the flight deck patched, and air operations underway, to the Japanese torpedo bombers that vectored in on CV5 half an hour later, she appeared to be an unmolested American target—a carrier that had not endured attack as of yet. As Parshall and Tully state, “[*Yorktown*] certainly wasn’t burning, and [...the Japanese torpedo flight leaders] justifiably assumed that this was indeed an undamaged enemy necessitating their attention.”⁷³

Buckmaster set Condition Affirm.⁷⁴ The CO stated that between the dive bombers and the torpedo attack “all repair parties returned to their stations [...] dispersed and rested flat on the deck.”⁷⁵ As enemy planes approached, *Yorktown*’s Executive Officer (XO) I.D. Wiltsee reported “all gasoline in the topside gasoline lines was pumped back down to the gasoline tanks in a very short time before the attack actually took place. [...Thus,] a CO₂ purging system for the topside gasoline lines and a CO₂ blanket for the gasoline tank compartments” prevented a serious conflagration.⁷⁶ The crew of *Yorktown* had learned from the loss of the *Lexington* at Coral Sea that gasoline vapors had to be controlled. Like CV5’s DC crews at both Coral Sea and Midway, *Lexington*’s firefighters had

descended into that hellish world, dragging long hoses behind them. They wore masks against the smoke, breathed from portable oxygen tanks, carried flashlights to light the way, and when the water pressure in their hoses failed, they turned handheld chemical extinguishers on the advancing flames. The sweat ran into

⁷¹ Linzey, *USS Yorktown*, 113.

⁷² A knot is equal to 1.15 statute miles per hour. As a result, after the boilers were brought back on line, *Yorktown* was making 26 miles per hour compared to a full ahead pace of 34 to 40 miles per hour.

⁷³ Parshall/Tully, *Shattered Sword*, 312.

⁷⁴ Condition Affirm (or Affirm as Buckmaster referred to it) indicates to secure the ship for watertight condition. All watertight doors and openings were to be closed and tightened down to prevent flooding in case of damages.

⁷⁵ CO War Damage, War Damage Reports and Related Records, 1942-1949, pull slip RG19/470/30/15/04, Box 80-81 [hereinafter cited as Damage Records 1942-1949], NACP

⁷⁶ XO to CO USS *Yorktown* CV5, Subject: Executive Officer’s Report of Action for Period of June 4-7, 1942, June 16, 1942, pull slip RG19/470/30/15/04, Box 80-81 [hereinafter cited as XO report], *Damage Records 1942-1949*, NACP. See Appendix D for the full Executive Officer’s report on the Midway CV5 shipboard action.

their eyes and they became light in the head—but they fought on, enduring the ovenlike heat, the choking smoke, and the constant threat of new explosions.⁷⁷

Yorktown's repaired condition would have given the appearance to the Japanese that a second American carrier could be destroyed by the remnants of the *Kido Butai* air wing. As the Nakajima B5N torpedo bombers approached, they used the “hammer and anvil” method of attack. The *Kates* approached CV5 from forward on both the port and starboard sides. Not only was Buckmaster’s seamanship challenged with reduced speed, but there was a more coordinated enemy torpedo attack to fend off. The result was that two torpedoes slammed into the port side of the ship near frames 80 and 92 (see Appendix C—Figure C3). Two huge gashes were torn in the port side plus the 24 foot zipper torn by the near miss on the ship’s port side at Coral Sea also opened up considering the lack of strength in the welded lapped plating. Buckmaster reported “frame 70 to [...] 110 open to the sea.”⁷⁸ Major flooding immediately became a problem as the port side of the ship settled into the water. Bill Roy said there was “Chaos [...] the ship rocked right out of the water [... and] the ship started listing.”⁷⁹ Stanford Linzey recalled “the thudding of the two torpedoes as they struck us on the port (left) side. I was down on the third deck at water level when they blasted the side of our ship and ripped huge holes in our hull [...] the ship lifted into the air.” Nevertheless, exiting through the darkened and slanted ship, the men were “[w]ell trained for such a calamity, we helped each other find our way to the surface.”⁸⁰

With no steam or electric power to counter the flooding, Captain Buckmaster discussed the ship’s survival with Commander Clarence Aldrich, his DC officer.⁸¹ They were concerned that CV5 might unexpectedly capsize, so the captain gave the “abandon ship” order. *Yorktown's*

⁷⁷ Toll, *Pacific Crucible*, 362.

⁷⁸ CO War Damage, *Damage Records 1942-1949*, NACP.

⁷⁹ Roy interview, NWWIIM

⁸⁰ Linzey, *USS Yorktown*, 24.

⁸¹ *Hall of Valor*—Aldrich received the Silver Star as CV5 Damage Control Officer at the battle of Midway.

crew buttoned up the water tight enclosures as well as possible in evacuating the listing and dark



Figure 6-CV5 quick acting scuttle in a watertight hatch (photo from NACP)

ship. It was at this point that the quick acting scuttles would save lives. Designed into the heavy (and now often jammed) water tight hatches, the opening would enable endangered sailors to exit. Where hatches could not be unfastened, scuttles provided emergency egress (see Figure 6). Linzey ran into a jammed hatch. “The

watertight hatch to the second deck was warped shut by the explosions!”⁸² Without the design forethought for crew

safety and ship survivability, Linzey and his shipmates might have been lost in this maze.

“However, in the center of each watertight hatch there was a scuttle, a small circular quick-acting hatch that could be opened by the turn of a wheel....the first man got it open, and the rest of us climbed up through the manhole, each in turn, one at a time.”⁸³ Single crewmen made their way through the tight but passable scuttles. The design changes to incorporate scuttles into the hatches benefited damage control and crew rescue. Likewise, the addition of gas masks to cover greater numbers of crewmen saved men from smoke inhalation. Although powerless after the torpedo attack, the firefighting systems and DC crewmen had worked efficiently to remediate the previous damage from the dive bombers. The crew of the *Yorktown* abandoned ship on the evening of June 6, 1942. The crew and all those observing the carrier expected her to capsize and sink. Task Force 17 and CINCPAC appointed Midway naval operations tactical commander, Admiral Frank Jack Fletcher was aboard CV5. He remarked in his after action report, the *Yorktown* crew “started abandoning ship in anticipation of her capsizing and [in

⁸² Linzey, *USS Yorktown*, 118.

⁸³ *Ibid.*

concern of] further enemy attacks. About twenty three hundred survivors were picked up by destroyers.”⁸⁴ Without effective damage control and DC related ship design, the number of CV5 survivors could have been far less. The injured carrier held on and stayed afloat.

The next morning, June 7, 1942, Captain Buckmaster called for volunteers for a salvage party to return to the lifeless *Yorktown* and attempt to secure a tow back to Pearl for yet another repair effort. There were 26 officers and 149 enlisted men who returned to their stricken ship as volunteers. “They knew full well that she was barely seaworthy and would probably be the target of repeated submarine and air attacks during a journey of some 1,000 miles,” *Yorktown’s* Executive Officer stated.⁸⁵ The XO named each of the officers and enlisted men who went back to their suffering ship to save her.⁸⁶ As Bill Roy, who returned in the onboard group stated, “engineering officers and different disciplines to operate the ship signed up for the salvage party.”⁸⁷ Roy remembers the “first order of business was to put out the fires persistently burning in the [... forward...] Rag Locker. It was near the aviation gas storage, torpedo storage and bomb storage [...and...] any minute something could happen and you’re history.”⁸⁸

Parshall and Tully describe the progress made by the recovery party

Yorktown’s fires were now out, and her port list had already been considerably abated by both portable pumps and counterflooding her starboard tanks. Topside, men were cutting away many of her portside guns so as to reduce the weight on her threatened flank. In the hangar, other sailors were lowering spare aircraft from the overheads and shoving them over the side. Most important of all, minesweeper *Vireo* had secured a towline to *Yorktown* ... and was dragging her clear at three knots. If things kept up, Captain Buckmaster might yet pull off one of the war’s more masterful demonstrations of damage control.⁸⁹

⁸⁴ Frank Jack Fletcher, Battle of Midway: 4-7 June 1942, Online Action Reports: *Commander Cruisers, Pacific Fleet of 14 June 1942*. June 14, 1942. <http://www.history.navy.mil/research/archives/digitized-collections/action-reports/wwii-battle-of-midway/commander-cruisers-pacific-fleet-report.html> (accessed October 24, 2015).

⁸⁵ XO report, Damage Records 1942-1949, NACP.

⁸⁶ Appendix D is *Yorktown* Executive Officer Wiltsee’s report which individually names the officers and enlisted men who formed the volunteer salvage team.

⁸⁷ Roy interview, NWWIIM.

⁸⁸ Ibid.

⁸⁹ Parshall\Tully, *Shattered Sword*, 372-373.

Yorktown improved her list by 2° from the prior 26° with the use of temporarily powered pumps plus dewatering pumps from the destroyer *Hammann*. The tug *Vireo* secured a line for tow toward Pearl and engineers worked on boilers. The salvage party made progress. The crew did not know that a Japanese submarine, the I-168, was lurking nearby and preparing a spread of torpedoes for a fatal attack on CV5. When the torpedoes were seen, it was too late to react. One hit the *Hammann* and split her in two. As she sank, her depth charges detonated and created an underwater explosion that “shook *Yorktown* from stem to stern.”⁹⁰ Although standing operating procedure required a crew to disarm depth charges while alongside another vessel, someone neglected to do so. The explosion caused further damage to *Yorktown*’s exterior shell.

The worst was yet to come. Two more I-168 torpedoes struck *Yorktown*’s vulnerable bottom near the starboard turn of the bilge (see Appendix C—Figure C4). Hitting near frames 85 and 92, the ship now had been bracketed by five major shell plating intrusions scattered on both sides of the vessel near midship plus the effect of *Hammann*’s depth charge detonations. The five main transverse watertight bulkheads at frames 71, 82, 90, 98 and 106 were likely compromised on at least one if not both sides of the ship. Even if the other 13 watertight and oil tight transverse bulkheads on the ship held tight, the center of the ship was fatally wounded. The three foot innerbottom on starboard side near the turn of the bilge was not armored. Torpedo damage was extensive. No DC effort could save the ship from these mortal wounds. Captain Buckmaster ordered the salvage crew off *Yorktown* and the tow to Pearl was abandoned.

With the huge hole punched in the underside of the doomed ship, the ship’s longitudinal bulkheads in way of the boiler rooms likely experienced catastrophic collapse.⁹¹ *Yorktown*

⁹⁰ Roy interview, NWWIIM.

⁹¹ CO War Damage, *Damage Records 1942-1949*, NACP.

initially began to settle but then she took a heavier list to the portside. Shortly afterward, the ship rolled and capsized. Figure 7 is the photograph taken as the *Yorktown* capsized. It shows the mortal wound to the bottom shell at the bilge. In viewing the photograph, it is evident that a huge hole has been blown in the bottom on the starboard side (the left side of the inverted hull in the picture). A dark concave opening is clearly visible in way of the blown away bilge keel. This is the result of the two I-168 torpedoes.

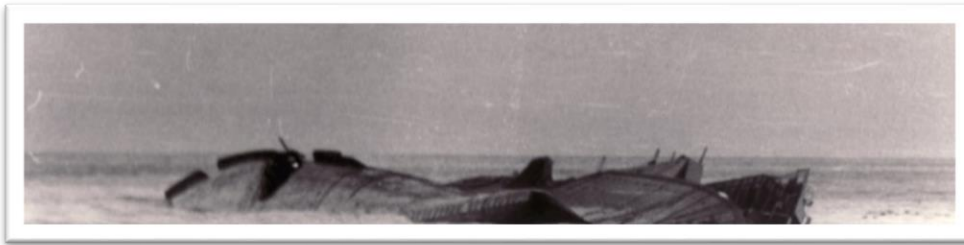


Figure 7-Capsized *Yorktown* (photograph from The National World War II Museum)

In a postmortem, BuShips concluded that the massive hole induced disastrous flooding into the ship's starboard boiler rooms and adjacent spaces. This is shown in yellow in Figure 8.

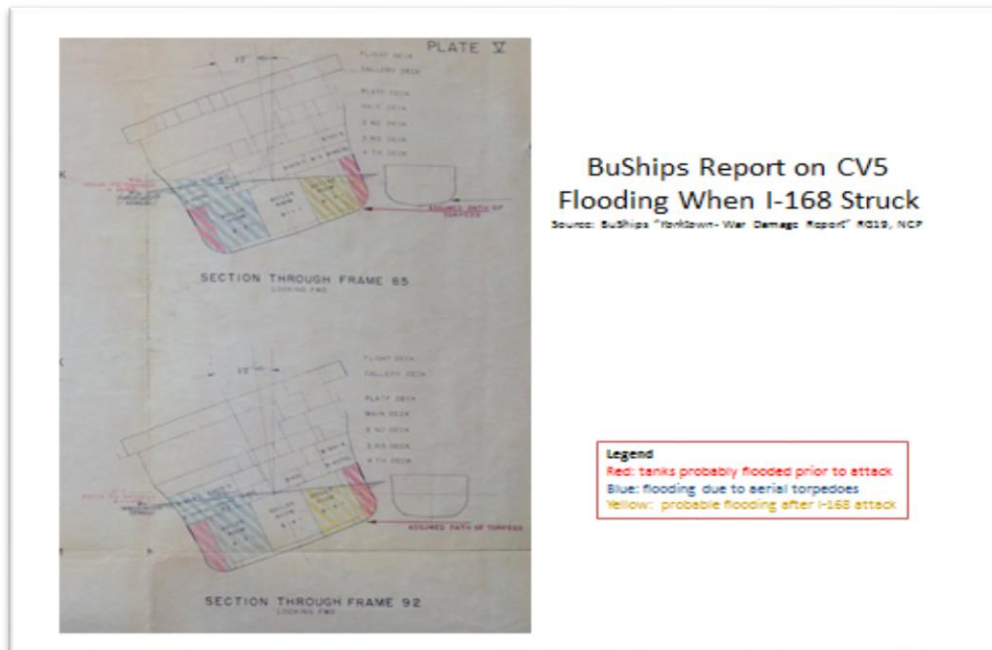


Figure 8-Tank flooding resulting from I-168 attack shown in yellow (from NACP)

With numerous watertight enclosures compromised, *Yorktown* stood no chance of recovery after the submarine torpedoes unleashed their fury. Like *Titanic*, long splits sink ships. CV5 would sink and settle upright at the bottom of the Pacific Ocean. Decades after the battle, she was discovered by a National Geographic Society exploration party led by Robert Ballard, who also found *Titanic* on the sea floor. Nearly in pristine condition in her watery grave, the deep gouge on her port side was evident. The condition of the *Yorktown* on the ocean floor can be seen in the Figure 9 painting. The painting is based on hundreds of photographic stills and high quality video recordings of the exploration in very clear water surrounding the *Yorktown*. The detailed examination “from stem to stern, from mudline to island top” occurred over three days in May 1998. Figure 9 resulted from an artistic composite rendering of the multiple individual hydrographic surveys performed by Ballard and his team nearly sixty years after CV5’s sinking.⁹²

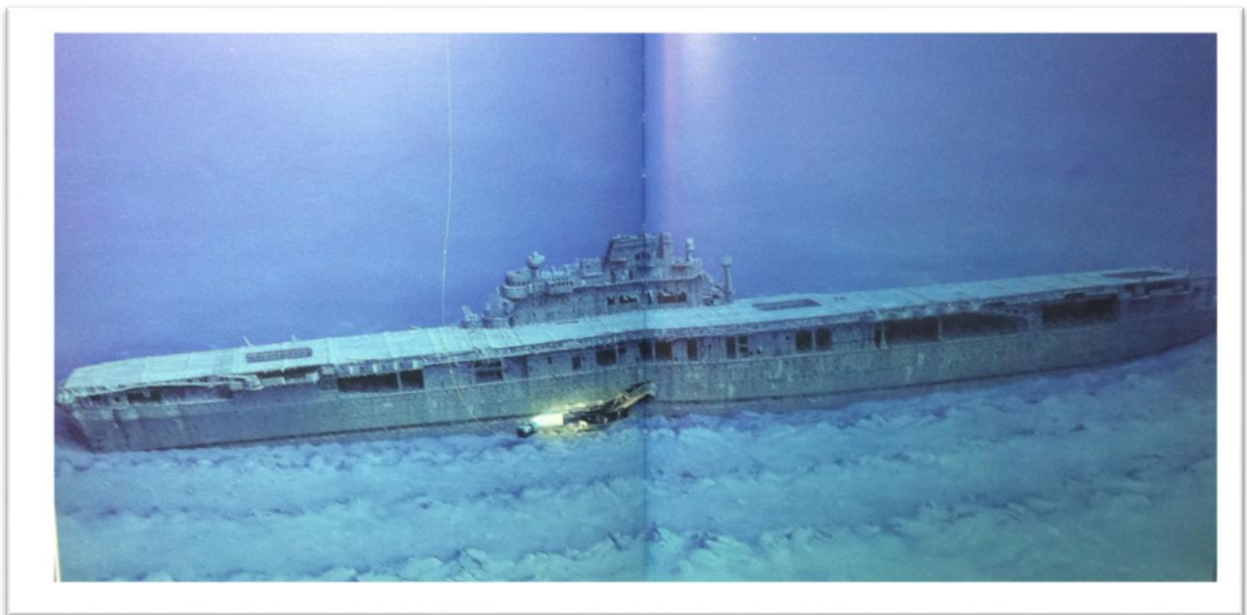


Figure 9- *Yorktown* after being sunk (Ken Marschall painting from Ballard, *Return to Midway*, 162-163.)

⁹² Robert D Ballard, *Return to Midway* (Washington: The National Geographic Society, 1999), 150-175.

Chapter 4—Damage Control Lessons Learned

There were many lessons learned and DC changes introduced as a result of the loss of *Yorktown*. The principle lesson included full training of ship's crew in damage control tenets.

Accumulating war experience emphasizes that the entire ship's company must be thoroughly educated in damage-control principles and methods, and must be properly trained to act in accordance with them. Action reports continue to illustrate that a ship can be lost because personnel outside of the main damage-control organization fail to employ proper damage-control methods and procedures. All hands, from the Commanding Officer down, must be made thoroughly conversant with all phases of damage control which apply to their own ship.⁹³

Land based formal training of firefighters became an important aspect for DC crews. The official US Navy World War II historian, Samuel Eliot Morison says, "Something more than courage—know how—was required to conquer fires." He goes on to show how DC efforts benefited throughout the duration of the war due to "the fire-fighting schools and improved techniques instituted by the Navy in 1942-1943." Former New York City fire department deputy chief, Lieutenant Harold J. Burke (USNR) and former Boston Fire Department member Lieutenant Thomas A. Kilduff (USNR) helped "train over 260 officer instructors and established schools at every continental naval base, and on several Pacific islands." Morison goes on to say that the instructors trained new damage control crews with an emphasis on getting "the fear of fire out of the sailor." A confidence was instilled in the DC crewman that "if properly equipped with fire mask and helmet, handling an all-purpose nozzle and applicator, he could boldly advance to the source of a blaze and not get hurt."⁹⁴

Another DC technique instituted for purging gasoline lines with CO₂ prevented calamitous fires. In his report on the Midway action, Admiral Nimitz stated "*Gasoline fires in*

⁹³ *Official Navy Handbook on Damage Control*, 1945 <http://www.hnsa.org/doc/dc> (accessed October 18, 2013), 190.

⁹⁴ Samuel Eliot Morison, *History of United States Naval Operations in World War II: Victory in the Pacific 1945* Volume XIV (Champaign, IL: University of Illinois Press, 1960), 98-99.

carriers are a serious menace, [his emphasis]. *Yorktown*, though hit by three bombs and set afire, had no gasoline fires, possibly because of the effective use of CO₂ in the gasoline system.”⁹⁵ CO₂ purging (or inerting) of gasoline lines and tanks was adopted by the USN, thanks to CV5 Machinist Oscar Meyer’s innovative thinking at Midway.⁹⁶ Nimitz also issued an order by the end of June 1942 that salvage parties were to be organized ahead of any need. His order read: “In the event a ship receives such severe battle damage that abandonment may be a possibility, a skeletonized crew to effect rescue of the ship shall be ready either to remain on board or to be placed in an attendant vessel.”⁹⁷

Another lesson was the use of anti-flash gear by the DC crews. *Essex*-class carriers entered service with more standardization of firefighting and other damage control parts and equipment including improved rescue breathing gear as they took over the Pacific.⁹⁸

Power and propulsion plant redundancy became important. Increased ship armor and speed was introduced into the *Midway* class carriers for better protection. Except for the *Lexington* CV2 and *Saratoga* CV3 (because of their unique design conversions to aircraft carriers from cruisers), no other prior carriers had the substantial power plants and armor as was designed into the *Midway* class. The machinery was

modern in design and arranged so as to gain the maximum resistance to derangement and battle damage. There are [...] boilers arranged in [independent] firerooms. Steam lines are such that the boilers in each fireroom can be connected to one main machinery unit so that the plant can be operated as four separate units [...] These carriers had [...] more effective damage control equipment.⁹⁹

⁹⁵ Chester Nimitz, *Battle of Midway: 4-7 June 1942, Online Action Reports: Commander in Chief, Pacific Fleet, Serial 01849 of 28 June 1942*. June 28, 1942. <http://www.history.navy.mil/research/archives/digitized-collections/action-reports/wwii-battle-of-midway/04-07-jun-1942.html> (accessed September 14, 2015), 27

⁹⁶ XO Report, *Damage Records 1942-1949*, NACP.

⁹⁷ Quoted in Samuel Eliot Morison, *History of United States Naval Operations in World War II*, Vol. IV: *Coral Sea, Midway and Submarine Actions* (Boston: Little, Brown and Company, 1949), 156.

⁹⁸ Morison, *Victory in the Pacific*, 99.

⁹⁹ Scot MacDonald, *Dept. of the Navy, Naval Historical Center, Naval Aviation Office: Evolution of Aircraft Carriers [electronic resource]*, 1997, <http://www.history.navy.mil/research/histories/naval-aviation-history/evolution-of-aircraft-carriers/the-early-attack-carriers.html>, 47 (accessed July 18, 2015).

Further, better ship welding techniques, material, and qualifications became important in shipbuilding. Not only would new techniques such as modular construction yield greater efficiencies, but welding quality and material composition control would produce more robust warships for the US Navy.

Carrier DC crews were moved up to the hangar deck so as to be more efficiently located instead of traversing up and down stairs from below. Four of the six DC teams on *Yorktown* had been located on the heavily compartmentalized Damage Control 3rd Deck. This made lateral movement prior to descent or ascent into the damaged areas very difficult. The hangar deck is open and easily traversed forward to aft in times of emergency.

Additionally, temporary powered pumps and power generation equipment for use after loss of ship's power became standard. Fire retardant paints became standard to prevent fires from burning on oil base painted surfaces.

The Navy learned solutions and implemented them after *Yorktown's* experiences at Coral Sea and Midway. Damage Control had minimized the loss of life on CV5 and left a legacy that reduced losses of American lives and US ships in the future.

Chapter 5—Conclusion

Revisionist history is tempting. There can be no doubt of the virtue of the decision to move *Yorktown* quickly through the Pearl Harbor drydock without completing all repairs. The US victory at Midway is evidence of the soundness of that directive. In retrospect, the *Yorktown* played an instrumental role in that outcome. Had CV5 not survived Coral Sea and been repaired at Pearl Harbor, the Japanese carrier *Soryu* would have escaped the *Dauntless* dive bombers from *Yorktown* on the morning of June 4, 1942. Battle odds after the US carrier morning attack would have been different. Without efficient CV5 DC efforts at Midway after the IJN dive bomber attack, another US carrier may have been targeted. Prior to the I-168 attack, it seemed that the salvage party stood a chance of returning their ship to the safety of Pearl Harbor. As the *Washington Post* reported “...the Japanese already had paid an awful price for their attempt to bulge their power to the East. But no man who saw the *Yorktown* will ever think they paid too much.”¹⁰⁰ The CV5 DC crew helped win the unexpected victory over the *Kido Butai* and changed the course of the Pacific war. For the loss of *Yorktown* and *Hammann*, plus 147 aircraft, the US navy sunk 4 IJN carriers and a heavy cruiser plus downed 322 of their best carrier planes. Those skilled *Kido Butai* pilots perished not only in the air but often in infernos aboard their carriers. The Japanese lost 3,057 of their best experienced sailors and pilots; while the United States suffered only 362 casualties.¹⁰¹ IJN onboard fires, explosions and deaths were in stark contrast to the success achieved by CV5 DC.

The USS *Yorktown* (CV5) damage control efforts contributed not only to the US victory at Midway but also aided in saving lives on their ship and—with lessons learned—even carriers and crews later in the Pacific war. Those early lessons learned vis-à-vis damage control and the

¹⁰⁰ “Last Moments of U.S.S. *Yorktown*, Sunk by Japs After Midway,” *Washington Post*, September 17, 1942, 8.

¹⁰¹ Williamson Murray and Allan R. Millett, *A War to Be Won: Fighting the Second World War* (Cambridge and London: The Belknap Press of Harvard University Press, 2000), 194.

subsequent Navy training programs that ensued helped improve US carrier survivability and reduce crew fatalities throughout the remainder of the Second World War. This was particularly the case after the advent of kamikaze attacks on the US Pacific Fleet. The USS *Franklin* (CV13) in March 1945 was a prime example of improved DC efforts. She was recently commissioned and serving to support the Okinawa landings by bombarding the Japanese home islands. A Japanese attack turned her flight deck and hanger, which were fully loaded with fueled and armed aircraft, into a blazing inferno. BuShip would say CV13 experienced “the most severe [fire] survived by any U.S. warship during the course of World War II.”¹⁰² Morison agreed that *Franklin* “was by far the most heavily damaged carrier in the war—in much worse shape than *Lexington* at Coral Sea or *Yorktown* at Midway—to be saved.”¹⁰³ Yet the *Franklin* was saved and later made port. Damage control lessons were important to saving ships.

The first responders on *Yorktown* fought for survival of their ship and nearly succeeded. The leadership on CV5 included Captain (soon promoted to Rear Admiral) Elliot Buckmaster, Executive Officer Commander Dixie Kiefer, his replacement (Kiefer was injured following the first abandon ship order) Navigator turned acting XO Commander Irving D. Wiltsie, and the First Lieutenant and Damage Control Officer Commander Clarence E. Aldrich. The United States Navy recognized each of them for their excellence.¹⁰⁴

¹⁰² Quoted in Friedman, *U.S. Aircraft Carriers*, 232.

¹⁰³ Morison, *Victory in the Pacific*, 94-99.

¹⁰⁴ According to *Hall of Valor*, Buckmaster received the Navy Distinguished Service Medal with a Gold Star for actions at Coral Sea and Midway. The Gold Star is affixed to a medal after the first award of that medal to indicate a second award of the same medal. Kiefer was awarded the Navy Distinguished Service Medal for Coral Sea and the Navy Cross for Midway. Wiltsie received the Silver Star for Midway actions as acting XO but, unfortunately died in November 1943 when, as CO, his escort carrier was sunk by a Japanese torpedo—his DC efforts earning him the Navy Cross. Aldrich was awarded the Silver Star for Midway in which his citation states “he directed and led fire parties, extinguishing four serious fires below deck [...] After the ship was attacked by torpedoes he continued calmly to furnish the captain with complete information on damage control although all lights in the ship were extinguished, and the compartment adjacent to his battle station in Central Station had been flooded as a result of a torpedo explosion.” Along with Buckmaster and Wiltsie, Aldrich participated in salvage operations on CV5. Note: The Medal of Honor is the highest ranked medal to be bestowed on a person in the Navy. It is followed by the Navy Cross for gallantry and the Distinguished Service Medal for commendable service. The Silver Star follows them.

Not only did the ship commanders perform well, but many of the crewmen and their superior officers were also recognized for their dedication to duty by the *Yorktown* XO in his after action report¹⁰⁵ and then later cited by the Navy. The critical boiler repairs within 25 to 30 minutes after their fires were snuffed out by the IJN dive bombers, and then the subsequent steaming at approximately 23 knots could not have been accomplished without the men who manned boiler room #1. With Lieutenant Commander John F. Delaney, Jr. in charge, his crew of Charles Kleinsmith, Clifton E. Snell, E.F. Janske, William A. Brewer, James W. Benton, Cecil D. Brooks, and R. Z. Ellison kept auxiliary power going in the stricken ship plus eventually attained sufficient speed to launch aircraft to defend against incoming IJN *Kate* torpedo bombers. Navy Crosses were awarded to Lieutenant Commander Delaney, Kleinsmith (posthumously) and Snell with others earning the Silver Star for their success with *Yorktown*'s boiler repairs under great stress with the overpowering smoke, gas and heat in the boiler room.¹⁰⁶

Launching defensive aircraft against the incoming torpedo planes would not have been possible without the boilers but most definitely required the flight deck repairs following three direct bomb hits penetrating that deck. Flight operations were halted until the deck was repaired. In that regard, Lieutenant Commander Albert H. Wilson Jr. "was principally responsible for the YORKTOWN'S ability to launch planes in sufficient time to intercept a Japanese aerial torpedo attack." Additionally, Ensign Chester E. Briggs "repeatedly exposed himself to danger during a heavy bombing attack and was cool and courageous in repairing flight deck equipment while the attack was going on." Both these men received the Silver Star for their actions in bringing the flight deck back up operationally and helping to deter at least some of the *Kates*.¹⁰⁷

¹⁰⁵ XO Report, *Damage Records 1942-1949*, NACP.

¹⁰⁶ *Hall of Valor*.

¹⁰⁷ *Ibid*.

Many firefighters and each of the nearly 180 volunteer salvage crewmen were recognized individually by the XO.¹⁰⁸ Two examples among the many are Lieutenant Commander Ernest J. Davis and Chief Machinist Mate Glyn D. Dillard. Lieutenant Commander Davis was cited by the XO for cutting away and dropping overboard the heavy portside antiaircraft armaments as he “devised a plan which contributed greatly to the reduction of the ship’s dangerous list.” Another laudable individual was Chief Machinist Mate Dillard who was cited for

[d]irecting fire fighting efforts with calm courage and efficiency [... He] was largely responsible for the quick suppression of fires started by the explosion of enemy bombs. Later, as a volunteer member of the salvage party which returned aboard the listing carrier, he entered holes cut through decks into a rag stowage space, where he labored tirelessly for six hours to extinguish a fire which had been burning for two days.¹⁰⁹

Davis and Dillard would be awarded the Silver Star for their admirable actions.

Admiral Raymond Spruance best expressed the importance of the sacrifice that *Yorktown* made when he told Admiral Fletcher “If it had not been for what you did and took with the *Yorktown*, I am firmly convinced that we would have been badly defeated and the Japs would be holding Midway today.”¹¹⁰ Damage Control actions on *Yorktown* were commendable. Lessons learned would save lives of sailors long after CV5 rested on the ocean floor. *Yorktown* CV5 Damage Control is an untold but vital story of naval action in the Pacific.

¹⁰⁸ XO Report, *Damage Records 1942-1949*, NACP.

¹⁰⁹ *Hall of Valor*.

¹¹⁰ Quoted in Walter R Borneman, *The Admirals: Nimitz, Halsey, Leahy, and King--The Five-Star Admirals Who Won the War at Sea* (New York: Little, Brown and Company, 2012), 255. Admiral Raymond Spruance was the Task Force 17 commander over the USS *Enterprise* (CV6) and the USS *Hornet* (CV8) at the battle of Midway. Admiral Frank Jack Fletcher relinquished to Spruance overall command of the US fleet in the Midway action when his carrier *Yorktown* was abandoned following the *Hiryu* dive bombing attack and subsequent loss of power.

Bibliography

Primary Sources

Archives

National Archives at College Park, MD

Bureau of Ships General Correspondence 1940-1945 to C-CV5-6/S1 to CV5/L9.
RG19/470/6/22/04, Boxes 710-715 (National Archives College Park, MD, July 21, 2015).

Bureau of Ships: War Damage Reports and Related Records, 1942-1949.
RG19/470/30/15/04, Boxes 80-81 (National Archives College Park, MD, July 21, 2015).

Detail Specifications for Building Aircraft Carrier No. 5--YORKTOWN/No. 6 ENTERPRISE for the United States Navy. RG19/470/30/11/03, Boxes 8-9 (National Archives College Park, MD, July 22, 2015).

National Archives Building, Washington, DC

Bureau of Construction and Repair Confidential Files 1925-1940 CV5-6/S88-2 to CV6/S88-3. RG19 Box 81 (National Archives Building, July 23, 2015).

Bureau of Construction and Repair General Correspondence 1925-1940 CV4/S 92 to CV5 & 6 A6. RG 19 Box 1709 (National Archives Building, July 23, 2015).

The National World War II Museum –Collection of USS *Yorktown* (CV5) photographs.

Oral Histories

Bill Roy interview The National World War II Museum, <http://www.ww2online.org/>, 25 August 2015

Memoirs

Linzey, Stanford E. *USS Yorktown at Midway: The Sinking of the USS Yorktown (CV-5) and the Battles of the Coral Sea and Midway*, Maitland, FL: Xulon Press, 2004.

Newspapers

Washington Post

Websites

- Fletcher, Frank. *Battle of Midway: 4-7 June 1942, Online Action Reports: Commander Cruisers, Pacific Fleet of 14 June 1942*. June 14, 1942.
<http://www.history.navy.mil/research/archives/digitized-collections/action-reports/wwii-battle-of-midway/commander-cruisers-pacific-fleet-report.html> (accessed October 24, 2015).
- Newport News Shipbuilding. "hnsa.org." *Historic Naval Ship Association*. March 20, 1940.
<http://hnsa.org/doc/plans/cv5.pdf> (accessed April 2, 2014).
- Nimitz, Chester. *Battle of Midway: 4-7 June 1942, Online Action Reports: Commander in Chief, Pacific Fleet, Serial 01849 of 28 June 1942*. June 28, 1942.
<http://www.history.navy.mil/research/archives/digitized-collections/action-reports/wwii-battle-of-midway/04-07-jun-1942.html> (accessed September 14, 2015).
- Preliminary Design Section, Bureau of Ships, Navy Department. "U.S.S. Yorktown (CV5) Loss in Action Midway 4-7 June 1942." *USS Yorktown CV-5 - Loss in Action Report June, 1942*. March 9, 1943. <http://www.cv5yorktown.com/Documents/Reports/Loss/> (accessed April 2, 2014).
- . *Official Navy Handbook on Damage Control*. 1945. <http://www.hnsa.org/doc/dc> (accessed October 18, 2013).

Primary Source Books

- Fuchida, Mitsuo. *Midway: The Battle That Doomed Japan, The Japanese Navy's Story*. Menasha, Wisconsin: George Banta Publishing Company, 1955.
- Manning, G C, and T L Schumacher. *Principles of Warship Construction and Damage Control*. Annapolis: United States Naval Institute, 1924, 1928, 1930, 1935, reprinted 1939 with corrections.

Secondary Sources

Books

- Ballard, Robert D. *Return to Midway*. Washington: The National Geographic Society, 1999.
- Borneman, Walter R. *The Admirals: Nimitz, Halsey, Leahy, and King--The Five-Star Admirals Who Won the War at Sea*. New York: Little, Brown and Company, 2012.
- Corbett, Julian S. *Some Principles of Maritime Strategy*. London: Naval and Military Press, 1911.
- Friedman, Norman. *U.S. Aircraft Carriers: An Illustrated Design History with Ship Plans by A.D.Baker III*. Annapolis, Maryland: United States Naval Institute, 1983.
- Lord, Walter. *Incredible Victory: The Battle of Midway*. New York: Harper Collins Publishers, 1967.
- Lundstrom, John B. *The First Team: Pacific Naval Air Combat from Pearl Harbor to Midway*. Annapolis, Maryland: Naval Institute Press, 1984.
- McBride, William M. *Technological Change and the United States Navy, 1865-1945*. Baltimore and London: The Johns Hopkins University Press, 2000.
- Morison, Samuel Eliot. *History of United States Naval Operations in World War II: Vol. IV Coral Sea, Midway and Submarine Actions*. Boston: Little, Brown and Company, 1949.
- _____. *History of United States Naval Operations in World War II: Vol XIV Victory in the Pacific 1945*. Champaign, IL: University of Illinois Press, 1960.
- Murray, Williamson and Allan Millett. *A War to Be Won: Fighting the Second World War*. Cambridge and London: The Belknap Press of Harvard University Press, 2000.
- Parshall, Jonathan and Anthony Tully. *Shattered Sword: The Untold Story of the Battle of Midway*. Washington, D.C.: Potomac Books, 2005.
- Prange, Gordon W. *Miracle at Midway*. Edited by Donald M. and Katherine V. Dillon Goldstein. New York: McGraw-Hill Publishing Company, 1982.
- Reynolds, Clark G. *Command of the Sea: The History and Strategy of Maritime Empires*. New York: William Morrow & Company, Inc., 1974.
- Stille, Mark. *USN Carriers vs IJN Carriers: The Pacific 1942*. Oxford: Osprey Publishing, 2007.
- Symonds, Craig L. *The Battle of Midway*. New York: Oxford University Press, 2011.

Toland, John. *But Not in Shame: The Six Months After Pearl Harbor*. New York: Random House, 1961.

Toll, Ian W. *Pacific Crucible: War at Sea in the Pacific, 1941-1942*. New York London: W.W. Norton & Company, 2012.

Websites

Goodheart-Wilcox, On-line Publisher. *Welding Fundamentals, 5th Edition* by William H. Minnick. 2008. <http://www.g-wonlinetextbooks.com/gas-metal-arc-welding-handbook-2008> (accessed October 25, 2015).

MacDonald, Scot. *Dept. of the Navy, Naval Historical Center, Naval Aviation Office: Evolution of Aircraft Carriers [electronic resource]*. 1997. <http://www.history.navy.mil/research/histories/naval-aviation-history/evolution-of-aircraft-carriers/the-early-attack-carriers.html> (accessed July 18, 2015).

Military Times: Hall of Valor. n.d. <http://valor.militarytimes.com/about.php> (accessed October 17, 2015).

San Francisco Maritime National Park Association. *Repair Techniques of Riveted Vessels*. July 7, 1997. <http://www.maritime.org/conf/conf-dvorak.htm> (accessed October 18, 2015).

Smith, RG. *Explaining the "Miracle" at Midway*. May 3, 2012. <http://navalaviationnews.navylive.dodlive.mil/2012/05/03/explaining-the-miracle-at-midway/> (accessed October 19, 2013).

The Battle of Midway Roundtable. September 2015. <http://www.midway42.org/TheBattle/YorktownDamage.aspx> (accessed September 22, 2015).

Periodicals

Reynolds, Clark G. "The U.S. Fleet-in-Being Strategy of 1942." *The Journal of Military History*, Vol. 58, No. 1 (January 1994): 103-118.

Appendix A—USS Yorktown (CV5) Ship Characteristics

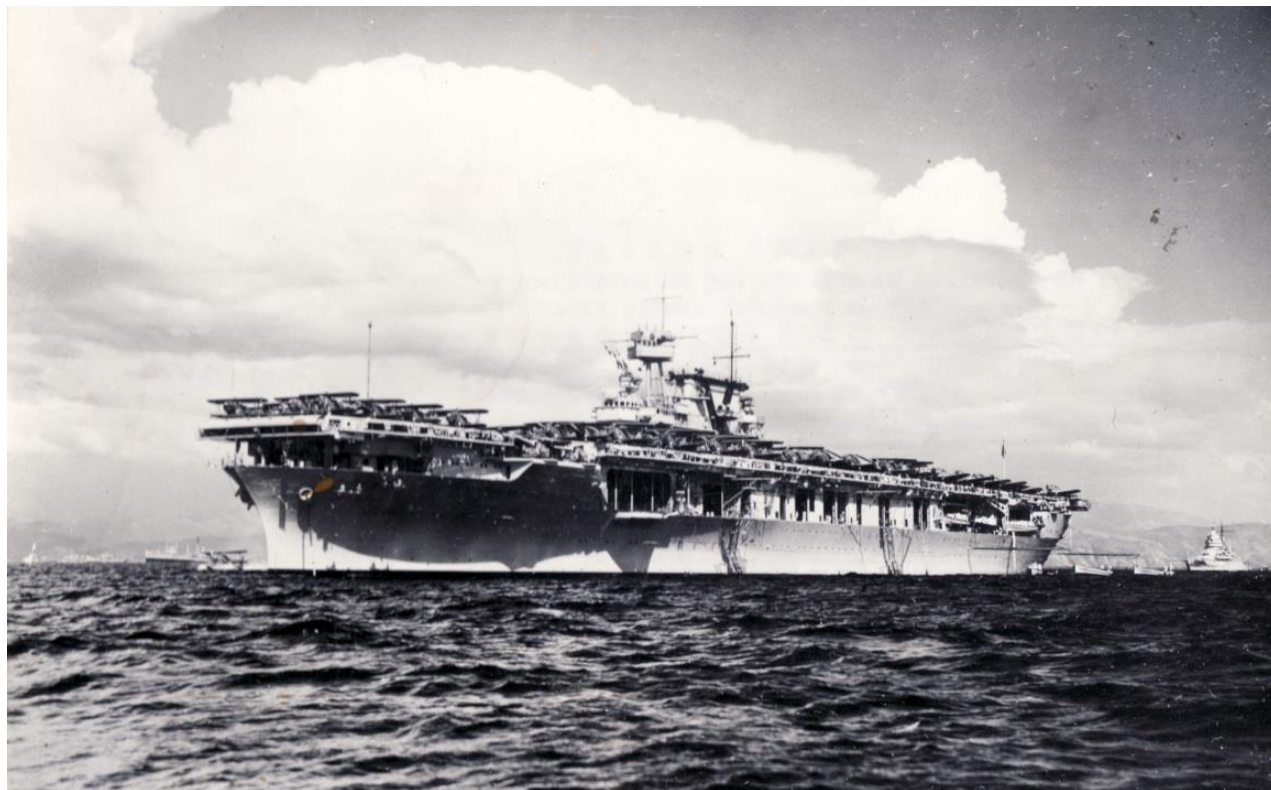


Figure A1- USS *Yorktown* CV5 (photograph from The National World War II Museum)

Ship Characteristics

[Friedman, *U.S. Aircraft Carriers*, 97 and 392.]

Displacement 19,576 tons Length 810' Width 110' Speed 33 knots

Complement Officers 227 Enlisted 1990 (including Air Group)

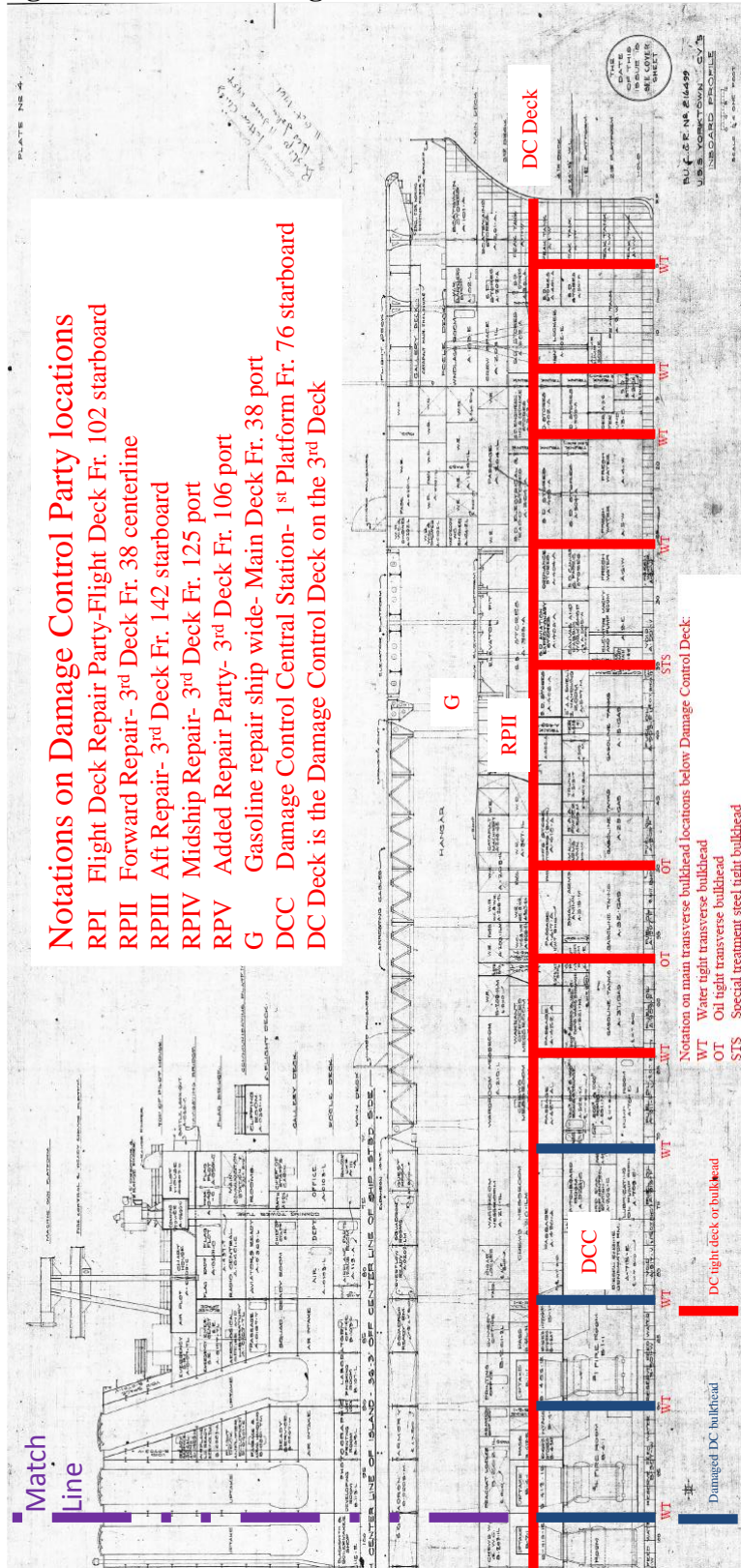
Air Group 97 Total aircraft in four Squadrons within the Air Group (188 airmen)
VS5: 37 Scouting planes- Douglas SBD-3 *Dauntless* dive bombers (2 airmen)
VB5: 18 Bombing planes- Douglas SBD-3 *Dauntless* dive bombers (2 airmen)
VT5: 18 Torpedo planes- Douglas TBD-1 *Devastator* torpedo planes (3 airmen)
VF5: 18 Fighter planes- Grumman F4F-4 *Wildcat* fighter planes (1 airman)
--- 6 other aircraft of varying types

NOTE: after Coral Sea some *Saratoga* (CV3) aircrews were assigned to *Yorktown*

Air Defense 8- 5"/38 caliber guns
4- Quad 1.1 inch mounts
24- 20 mm machine cannons
24- 0.50 caliber machine guns

Appendix B- USS Yorktown DC Subdivisions and Repair Party Locations

Figure B1—CV5 Damage Control Forward

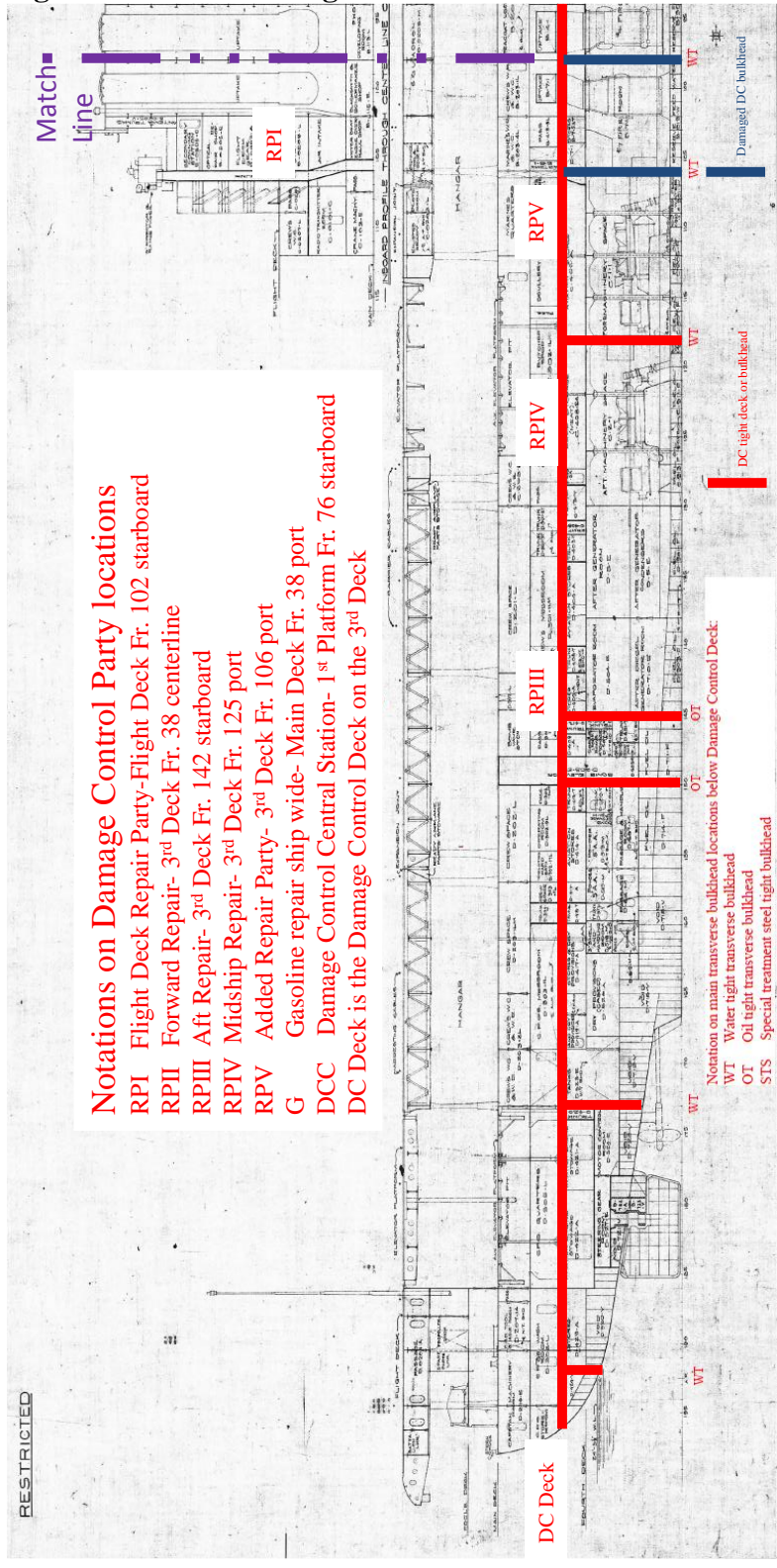


Source: Newport News Shipbuilding. "hnsa.org." *Historic Naval Ship Association*.
 March 20, 1940. <http://hnsa.org/doc/plans/cv5.pdf> (accessed April 2, 2014).

Red annotations by author

Appendix B- USS Yorktown DC Subdivisions and Repair Party Locations

Figure B2—CV5 Damage Control Aft



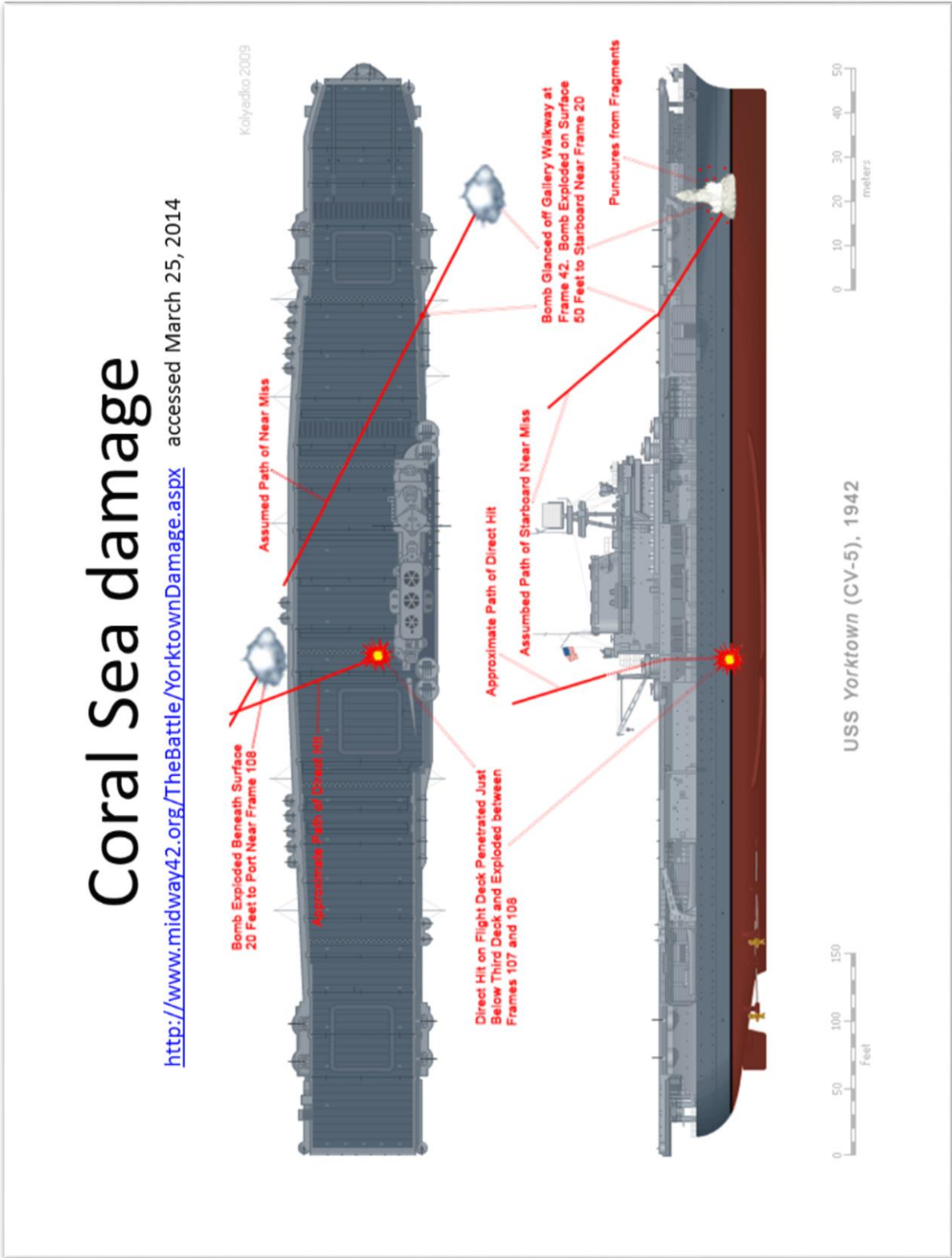
Notations on Damage Control Party Locations
 RPI Flight Deck Repair Party-Flight Deck Fr. 102 starboard
 RPII Forward Repair- 3rd Deck Fr. 38 centerline
 RPIII Aft Repair- 3rd Deck Fr. 142 starboard
 RPIV Midship Repair- 3rd Deck Fr. 125 port
 RPV Added Repair Party- 3rd Deck Fr. 106 port
 G Gasoline repair ship wide- Main Deck Fr. 38 port
 DCC Damage Control Central Station- 1st Platform Fr. 76 starboard
 DC Deck is the Damage Control Deck on the 3rd Deck

Notation on main transverse bulkhead locations below Damage Control Deck:
 WT Water tight transverse bulkhead
 OT Oil tight transverse bulkhead
 STS Special treatment steel light bulkhead

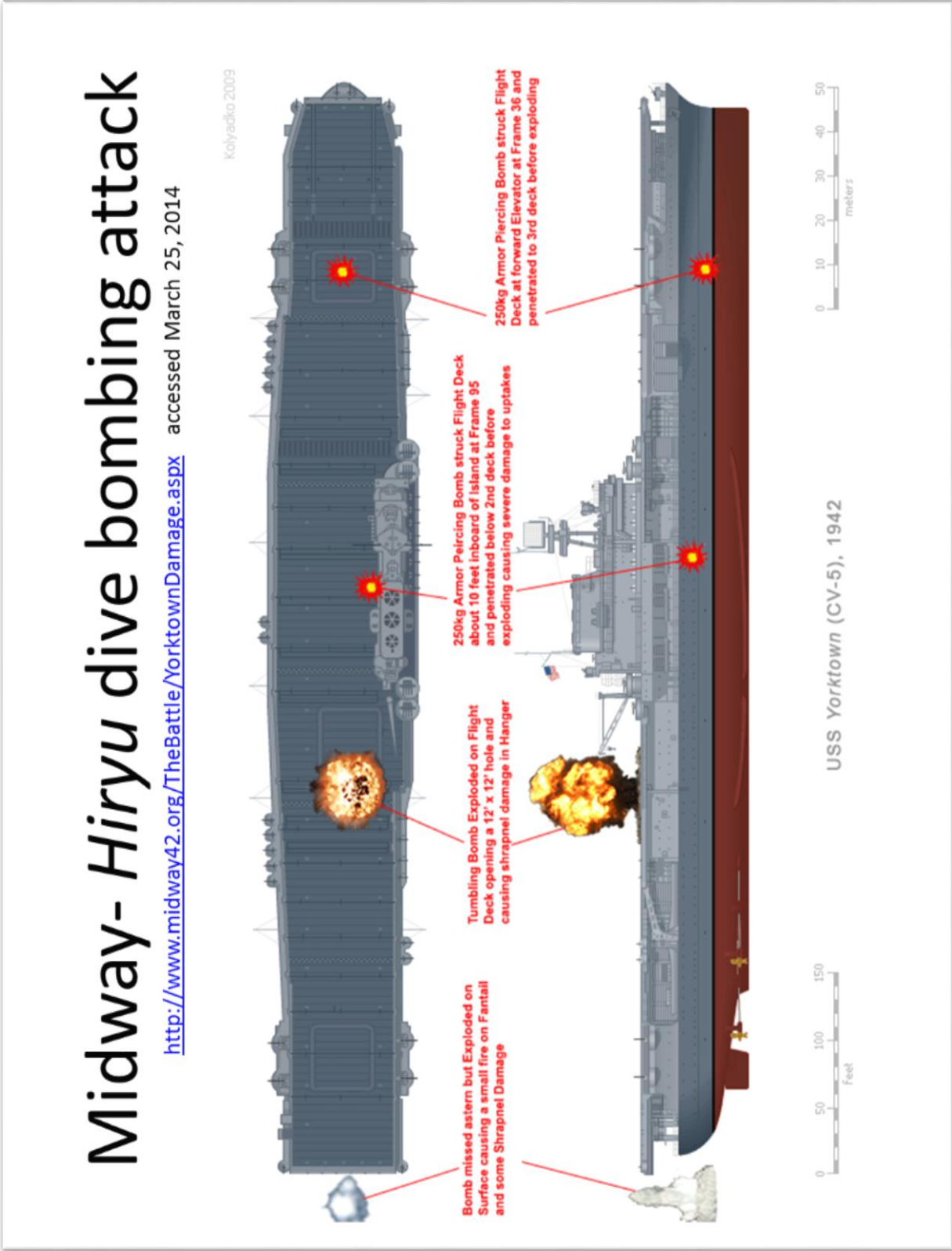
Source: Newport News Shipbuilding. "hnsa.org." *Historic Naval Ship Association*.
 March 20, 1940. <http://hnsa.org/doc/plans/cv5.pdf> (accessed April 2, 2014).

Red annotations by author

Appendix C—Yorktown CV5 Battle Damages
Figure C1—Coral Sea Damage



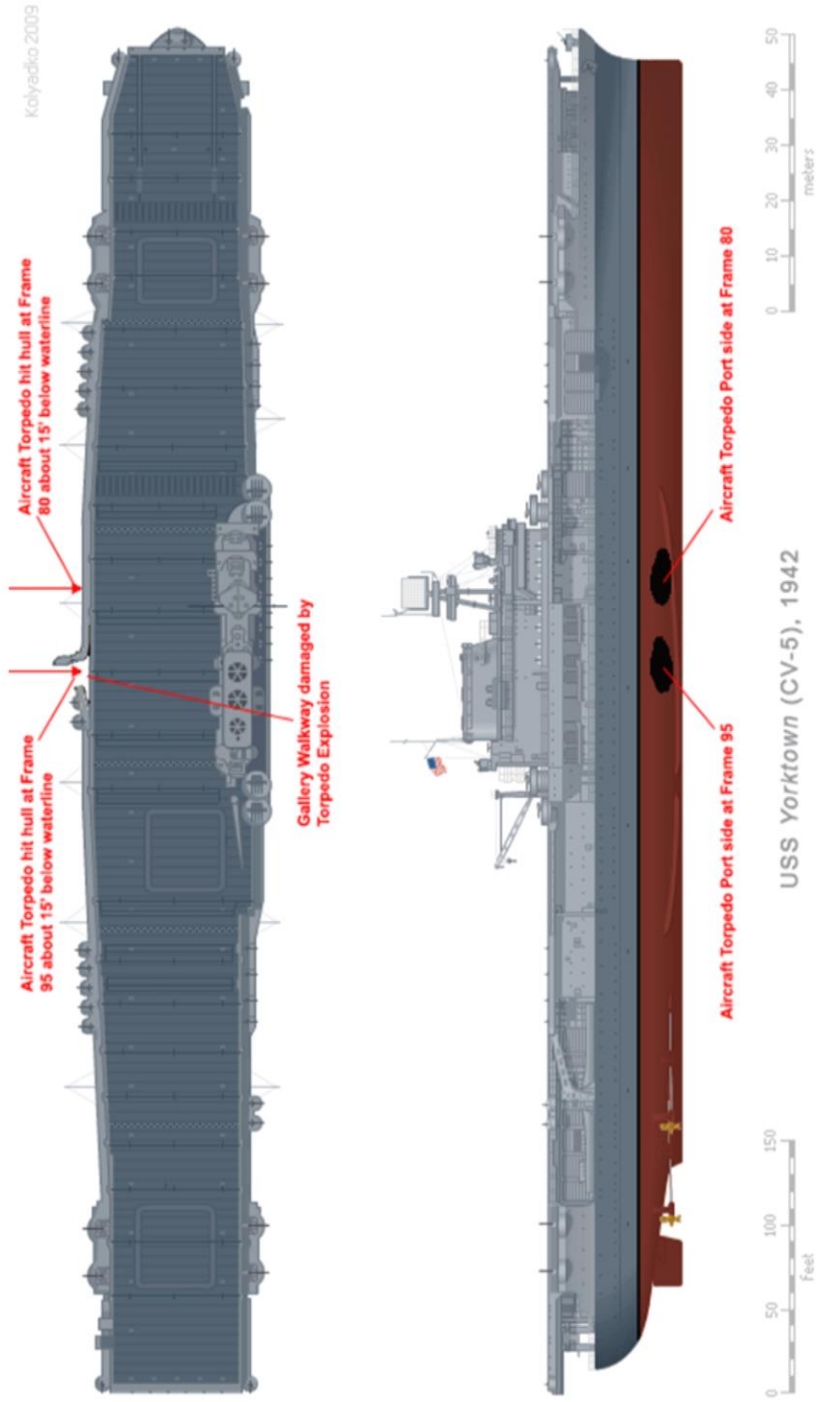
Appendix C– *Yorktown* CV5 Battle Damages
 Figure C2: Midway- *Hiryu* dive bombing attack



Appendix C— Yorktown CV5 Battle Damages
Figure C3—Midway- *Hiryu* torpedo attack

Midway- *Hiryu* torpedo attack

<http://www.midway42.org/TheBattle/YorktownDamage.aspx> accessed March 25, 2014

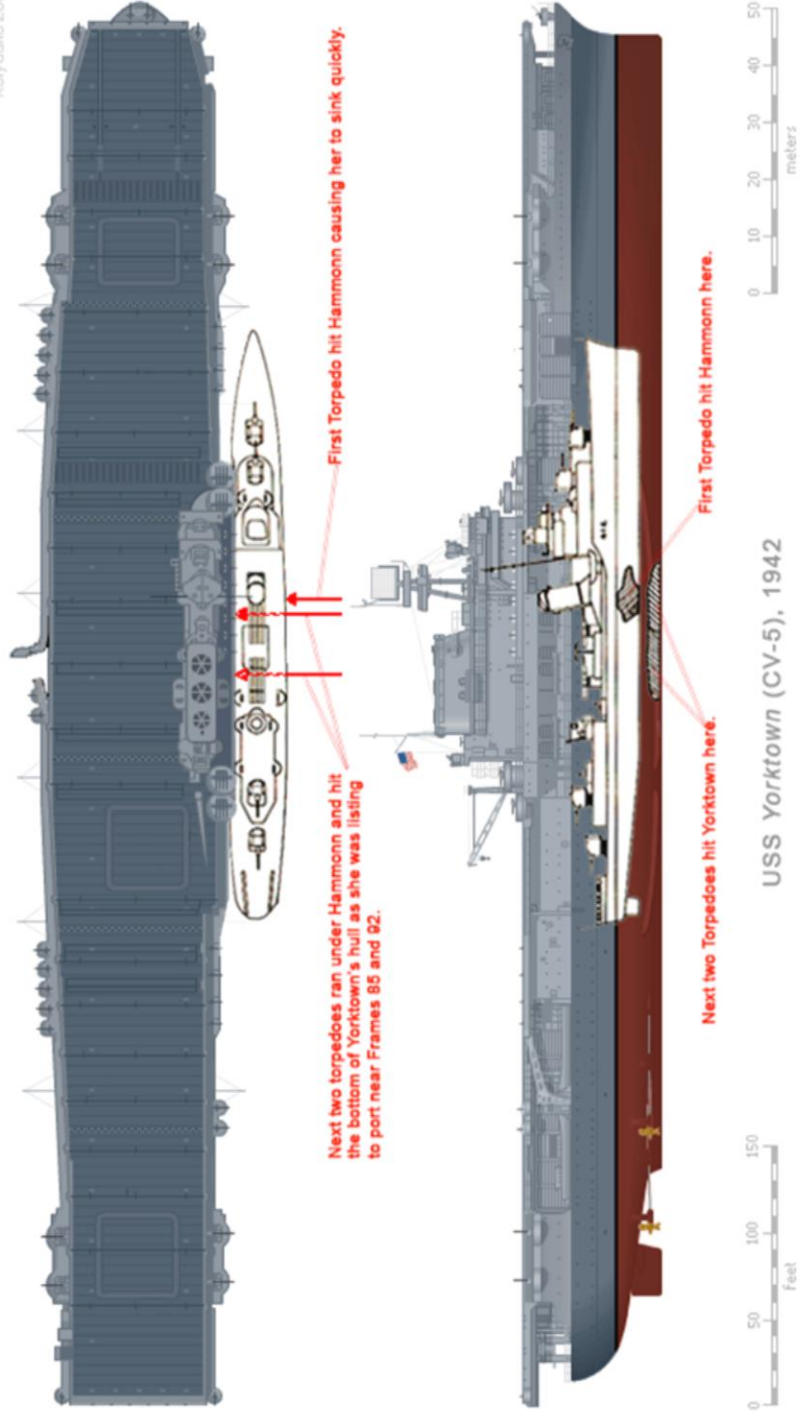


Appendix C— Yorktown CV5 Battle Damages
Figure C4—IJN I-168 Submarine fatal damage

IJN I-168 Submarine fatal damage

<http://www.midway42.org/TheBattle/YorktownDamage.aspx> accessed March 25, 2014

Kolyadko 2009



Appendix D- Executive Officer's Report of [CV5 Midway] Action

[Source: Yorktown XO to CO, Subject: Executive Officer's Report, June 16, 1942, Damage Records 1942-1949, NACP.]

DECLASSIFIED
Authority NND960035

U. S. S. YORKTOWN PACIFIC FLEET

June 16, 1942.

From: The Executive Officer.
To : The Commanding Officer.

Subject: Executive Officer's Report of Action for Period of
June 4 - June 7, 1942.

1. I became the acting Executive Officer on 4 June 1942 due to the injuries received by Commander Dixie Kiefer, USN, who was thereby incapacitated for further duty. This report covers the period from 4 June until the YORKTOWN sank on 7 June.

2. During that period, the conduct of such officers and men as came under my cognizance was exemplary. The following individuals are recommended for outstanding achievements as indicated:

Commander A.E. TRUE, USN.

For placing his ship, U.S.S. HAMMANN, alongside the YORKTOWN in dangerous waters, knowing that the YORKTOWN would be the target of any attack, and remaining there about eight hours. During that time, his ship furnished water pressure for fire fighting and electric power to operate pumps, the YORKTOWN having no power of her own available. The HAMMANN was torpedoed and sank while alongside. He is recommended for the Distinguished Service Medal.

Commander Murr E. Arnold, USN.

He has been the Air Officer of the U.S.S. YORKTOWN for a period of about four months. During that time the ship has been actively engaged with the enemy in eight engagements. Due to his administration and coordination of the Air Group and the Air Department, this ship's Air Group has never missed an objective. Aside from attacks made in conjunction with the Air Groups of other carriers, the Air Department of this ship has accounted for at least twelve enemy combatant ships. It is felt that his direction of the striking force of this vessel has been extremely successful and is worthy of the highest praise. He is recommended for the Distinguished Service Medal.

Commander Ralph J. Arnold, (SC), USN.

He was a member of the volunteer party who attempted to salvage the YORKTOWN. In addition to his duties in that connection, he was personally responsible for rescuing two members of the HAMMANN's crew after she was torpedoed and was of the utmost help in evacuating wounded from the YORKTOWN. He made excellent use of his previous line officer's experience, in coordinating and directing abandon ship parties from the YORKTOWN. He volunteered to return to the YORKTOWN

- 1 -

ENCLOSURE (A)

27

DECLASSIFIED
Authority NND960035

U. S. S. YORKTOWN
PACIFIC FLEET

Subject: Executive Officer's Report of Action for Period
of June 4 - June 7, 1942.

after the second abandoning. He is recommended for the Distinguished Service Medal.

3. The following officers were outstanding in their performance of duty and are recommended for the Navy Cross for reasons given in each case:

Commander Clarence E. Aldrich, USN.

As First Lieutenant and Damage Control Officer of the ship, he directed and helped lead fire parties which extinguished four fires in the ship between the bombing attack and the torpedo attack. He volunteered as a member of the salvage party and while directing the efforts to right the ship was injured during the submarine torpedo attack.

Lieutenant Commander Clarence C. Ray, USN

As Communication Officer of the ship he played a major part in personally supervising communications with regard to Radar and Fighter Director Control. He volunteered to return aboard as member of the salvage party and entered various compartments with no regard for his personal safety while the ship was in a precarious condition. By these efforts he safeguarded the secret and confidential matter in various parts of the ship and was personally responsible for saving secret files for Commander Task Force SEVENTEEN.

Lieutenant Commander Oscar Pederson, USN, Air Group
Commander and Fighter Director.

Lieutenant Commander Pederson performed his duties as Air Group Commander and Fighter Director in an outstanding manner. Although kept on board ship to function as Fighter Director, his superb organization and planning of the details of Air Group operations were largely responsible for the outstanding performance of the YORKTOWN Air Group. As Fighter Director during battle he directed fighting planes in the defense of the YORKTOWN and accompanying vessels in such a manner as to utilize the fighters to the utmost of their powers and to destroy the great majority of the attacking enemy planes.

Lieutenant Commander John F. Delaney, USN

This officer, with no regard for his personal safety, led inspection parties below decks while the ship had a list of some 24 degrees, in order to inspect engineering spaces with a view to putting the ship on an even keel and getting up steam in as much of

DECLASSIFIED
Authority NND960035

U. S. S. YORKTOWN
PACIFIC FLEET

Subject: Executive Officer's Report of Action for Period
of June 4 - June 7, 1942.

the power plant as he could to assist salvage operations and to get
steerage way on the ship.

Lieutenant Commander Ernest J. Davis, USN.

This officer devised the plan of cutting away the port
5" battery and the port twenty millimeter battery with the view of
lessening the list on the ship. He was also most meticulous in see-
ing that no fire hazards developed during this operation. One 5"
gun had been cut away and had fallen over the side and the second was
almost half cut away when the ship was struck by two torpedoes from a
submarine. Due to his position close to the side of the ship while
supervising the cutting operations, he was thrown overboard by the
shock of the torpedo explosions. He swam aft and was about to climb
back aboard ship when he was severely injured by the shock of the
exploding depth charges on the sinking HANMANN.

Lieutenant Ralph E. Patterson, USN.

Although he had been relieved of his former duties in
the C&R Department of the ship, and was taking over the duties of the
Communication Officer, he volunteered to return to the ship in order
to give the First Lieutenant the benefits of his previous experience.
He did a great deal of valuable work in assisting and determining
the amount of underwater damage and formulating the plans to correct
the trim of the ship which was a vital necessity in order to allow her
engineering plant to be placed in operation.

Lieutenant Albert H. Wilson, Jr., USN.

For his cool and efficient action, while under an enemy
bombing attack, in leading his group of men on to the flight deck
without any protection there from the attack in order to restore the
flight deck to an operative condition. Further, for his volunteering
to return to the ship to assist in her salvage. During the salvage
operations, he was inspecting below deck compartments with a view
to determining any danger from fire in the gasoline system which might
have occurred from the persistent fire forward when the submarine
attack took place. On attempting to reach the hangar deck from com-
partments below, a heavy hatch, jarred loose by the force of the ex-
plosions, fell on his head and arm. In spite of these injuries, he
was of the greatest assistance in evacuating wounded and in assisting
with the abandoning ship parties.

Lieutenant, junior grade, Donald S. Scheu, USN.

Without regard for his personal safety, this officer
made continuous inspections in compartments below decks while the

DECLASSIFIED
Authority NND960035

U. S. S. YORKTOWN
PACIFIC FLEET

Subject: Executive Officer's Report of Action for Period
of June 4 - June 7, 1942.

ship had a dangerous angle of heel and was still in enemy waters. He located the extent of the persistent fire forward and played a major part in directing operations toward extinguishing that fire which was close to the forward gasoline tanks.

Ensign Mervin O. Slater, USN.

This officer made similar inspections to those made by Lieutenant Scheu. He showed no regard for his personal safety and took an active part in combatting the fire. He took initial steps to clear smoke from below deck compartments, clear a damaged fire main forward, and his performance of duty is considered outstanding in that he had only served on board a few months and had little time to become familiar with the ship and its damage control facilities.

Lieutenant, junior grade, Edward A. Kearney, (MC), USN

Aside from his attention to duty during the attacks on the ship and his efforts in evacuating wounded during the subsequent abandonment, Dr. Kearney displayed qualities which caused him to stand out from any average young officer of his years and experience. He was tireless all night on the rescue destroyer in his efforts to alleviate suffering and to care for the wounded. He volunteered to return aboard as a member of the salvage party, had entire charge of preparing the dead aboard for burial and was cool and collected during the subsequent submarine torpedoing. He showed no hesitancy in volunteering to again return aboard and, when that was frustrated by the ship's sinking, he was transferred to the U.S.S. BENHAM where he became the medical officer in charge of some 70 wounded, 45 of whom were in a critical condition. His devotion to duty and professional skill as a surgeon, while working without the normal facilities of a sick bay or operating room, are solely responsible for these people reaching port and the Naval Hospital alive.

Boatswain Chester E. Briggs, Jr., USN

He repeatedly exposed himself to danger during the bombing attack and was cool and courageous in repairing flight deck equipment while the attack was going on. He was wounded while conducting repair work and fighting fire on the flight deck without protection. After the torpedo attack, and while himself still wounded, he played a major part in freeing shipmates who had been caught and wounded by the curling up of the port catwalk which was caused by the torpedo explosions. This placed him in a precarious situation on the low side of the ship without regard for his own personal safety.

DECLASSIFIED
Authority: NND960035

U. S. S. YORKTOWN
PACIFIC FLEET

Subject: Executive Officer's Report of Action for Period
of June 4 - June 7, 1942.

Machinist Oscar W. Myers, USN.

Just before the torpedo attack word had been passed to gas airplanes on the flight deck. After the enemy torpedo planes appeared in sight, it became evident that there was not sufficient time to complete gassing of planes and these planes were accordingly launched without full gasoline load. All gasoline in the topside gasoline lines was pumped back down to the gasoline tanks in a very short time before the attack actually took place. Machinist Myers had previously conceived the idea, and installed, a CO₂ purging system for the topside gasoline lines and a CO₂ blanket for the gasoline tank compartments. It is believed that serious damage to the ship, from fires which might have occurred, was averted by the functioning of this equipment.

Carpenter B.M. McKenzie, USN.

As a volunteer member of the salvage party he made inspections and investigations in spaces below decks without thought of his personal safety. His performance as a director at the scene of the fire below decks in close proximity to the gasoline tanks and with the ship in a precarious condition is considered to be outstanding and beyond the reasonable call of duty.

Radio Electrician Vane M. Bennett, USN.

Radio Electrician Bennett performed distinguished service in battle on June 4th as Radar Officer and Radar Operator. By his expert knowledge of Radar and his Excellence as a Radar Operator, he kept the Radar operating through the heavy bombing attack and until all power was finally lost as a result of torpedo hits. By means of the complete and accurate information he furnished, the Fighter Director was enabled to employ his fighting planes to the best advantage against the enemy.

Ensign Charles R. Broderick, D-V(G), USNR.

With all of the 20 men of his gun crew killed or wounded, himself seriously and painfully wounded and with bomb splinters in his back and legs, Ensign Broderick assisted in the removal of the dead and wounded and continued his duty until the loss of blood made it impossible for him to stand. It is further recommended that he be promoted to the rank of Lieutenant, junior grade.

Ensign John D. Lorenz, D-V(G), USNR.

With all but one man and himself of the gun crew of 20

DECLASSIFIED
Authority NND960035

U. S. S. YORKTOWN
PACIFIC FLEET

Subject: Executive Officer's Report of Action for Period
of June 4 - June 7, 1942.

men killed or wounded, he coolly assessed the damage and determined that fires in the vicinity and in the ready magazines directly below the gun mount were under control. After this he directed 3 men in maintaining the fire of the guns on the mount effectively throughout the remainder of the attack.

4. The following enlisted men are recommended for the Navy Cross for the reasons stated:

KLIENSMITH, Chas.	WT1c	In charge
SNELL, C.E.	WT2c	Checks
JANSEN, E.F.	F1c	Pumps
BROOKS, C.L.	F2c	Burners
BENTON, J.W.	F2c	Burners
BREWER, W.E.	F2c	3JV
ELLISON, R.E.	F2c	X3JV

After the bombing attack all power on the ship had to be secured from everything except the auxiliary steam line. The only boiler left operating in the ship was No. 1 boiler of which these men formed the crew. They stayed in the boiler room despite broken and red-hot boiler casing, fumes from bomb explosions and ruptured uptakes in No. 1 boiler. Their performance of duty was directly responsible for the fact that the ship was gotten underway in about 25 or 30 minutes and was able to steam at approximately 20 knots by the time the torpedo attack actually took place.

UPCHURCH, SF1c - BRAZILE, SF1c - HOOK, SF1c - VANDER, SF1c

The performance of these four men was outstanding during the action and in the salvage operations. Without regard for personal safety, they entered holes cut in the decks and took fire hoses down to the third deck to combat the persistent fire forward. Their efforts were directly responsible for the fact that the fire was extinguished after it had burned about two days.

NOLAN, Albert S., CGM, USN.

When all but one man of his gun crew had either been killed or wounded, himself painfully wounded in the right arm and both legs by splinters, Nolan stepped in place of a dead loader, corrected casualties to the guns and loaded the guns. By this action Nolan along with two other men and under the direction of Ensign J.D. Lorenz helped to maintain the firing of the guns of his mount through the remainder of the attack.

It is further recommended that this man be advanced to the rank of Gunner, U.S. Navy.

DECLASSIFIED
Authority: NND960035

U. S. S. YORKTOWN
PACIFIC FLEET

Subject: Executive Officer's Report of Action for Period
of June 4 - June 7, 1942.

DILLARD, G.D., CM1c, USN.

The performance of this man was outstanding during the action and in the salvage operations. Without regard for personal safety, he entered holes cut in the decks and took fire hoses down to the third deck to combat the persistent fire forward. The efforts of this man and the four shipfitters already mentioned were directly responsible for the fact that the fire was extinguished after it had burned about two days.

He is especially cited for gallantry in saving the lives of two of the HAMMANN men by diving into the oil covered water, supporting them until rescued by a boat.

METCALF, Theodore Bragg, 337 01 47, GM2c, USN

Although painfully wounded so as to prevent the use of one arm, under the direction of Ensign M.R. Pessolano, Metcalf went to work immediately after the attack and repaired or replaced four 50 caliber machine guns which had been damaged, assisted in the removal of the dead and wounded and aided in the stationing and instructing of new men to replace casualties. This battery was ready for full operation against the second attack.

It is further recommended that this man be advanced to the rate of Gunner's Mate, first class.

DAVIES, Harold O., Sea1c., USN.

Pointer on mount #3. When all of 19 other men of this 171 m.g. mount had been killed or wounded, this man stayed coolly at his post, continued to point and fire the guns of his mount as they were loaded and kept in operation by Nolan, CGM, and Smith, Sea2c, under the direction of Ensign J.D. Lorenz.

It is ruther recommended that this man be advanced to the rate of Coxswain.

SMITH, D.M., Sea2c, USN.

This eighteen year old boy was assigned to 171 machine gun mount #3. During the first attack a bomb struck nearby, killing or wounding all but one of the men of the crew of which he was a member. Although painfully and severely wounded with bomb splinters in his back and in both legs, this man continued to load the guns and along with Nolan, CGM, and Davies, Sea1c, and under the direction of Ensign John D. Lorenz, USNR, kept this mount firing for the duration of the attack.

DECLASSIFIED
Authority NND960035

U. S. S. YORKTOWN
PACIFIC FLEET

Subject: Executive Officer's Report of Action for Period
of June 4 - June 7, 1942.

attack. Although ordered to lay down until his wounds could be treated he refused and stood by his guns until further firing was unnecessary.

It is further recommended that this man be advanced to the rate of Seaman, first class.

WILSON, A., Mattle, USN.

The conduct of this man was of the highest order in that during the period following a submarine torpedo attack on June 6 and while the ship was in a precarious position, he volunteered to go below decks and to conduct a search for missing shipmates. He further produced from below decks some six mattresses which were used to transport injured and would have been very valuable as life saving equipment if the injured had been compelled to swim. He displayed exceptional courage and initiative when the condition of the ship indicated that abandonment would be necessary in a very short time.

5. The following officers volunteered to return aboard the YORKTOWN and attempt her salvage after abandonment. They knew full well that she was barely seaworthy and would probably be the target of repeated submarine and air attacks during a journey of some 1,000 miles. The ship was torpedoed twice while they were aboard and finally sank in spite of their efforts. Their conduct was in accordance with the best traditions of the Naval Service. It is recommended that they be commended by the Secretary of the Navy with such further action as he may see fit:

Lieutenant Commander D.G. McMillan, USN
*-- Lieutenant E.B. Hurlbert, USNR
Lieutenant (jg) C.R. Cundiff, USN
Lieutenant (jg) J.E. Greenbacker, USN
Ensign C.B. McManus, USNR
Boatswain E.B. Crosby, USN
Gunner W.F. Woodard, USN
Gunner M.E. Witting, USN
Electrician L.A. Wingo, USN
Machinist P.N. McDonald, USN
Machinist D.C. Thore, USN
Electrician R.T. Elder, USN
Boatswain W.E. Jones, USN
*Lieutenant A.C. Emerson, USN

6. The following enlisted men volunteered under the same conditions and were subject to the same attack. It is recommended that they be commended by the Secretary of the Navy for outstanding service beyond the call of ordinary duty:

DECLASSIFIED
Authority NND960035

U. S. S. YORKTOWN
PACIFIC FLEET

Subject: Executive Officer's Report of Action for Period
of June 4 - June 7, 1942.

ABERGROMBIE, Ollie L., Sea2c, USNR
ATTAWAY, Alvis A., CRM, USN
AUSTIN, C.N., Sealc, USN
BARKER, Frank N., WT2c, USN
BARNES, D.P., Mattlc, USN
BARTEL, Adam N. MM2c, USN
BATEMAN, George E., MM1c, USN
BENNETT, Floyd H., CY(PA), USN
BICKEL, William F., SF2c, USN
BLANCHARD, Arthur G., Sealc, USN
BLESSUM, Donald A., Sea2c, USN
BLOOM, William G., F2c, USN
BOO, Frank W., Ylc, USN
BOUDREAUX, ERNEST J., Cox, USN
BRAUN, Leonard A., CM2c, USN
BRENT, Thomas S., CWT, USN
BRINGLE, Mitchell W., SF2c, USN
BROOKS, Lyon R., CEM, USN
BUZZELLI, Victor R., QM3c, USN
CAGE, James E., CM3c, USN
CAGE, Julius T., CM3c, USN
CALLAWAY, Calvin E., CGStd, USN
CARDINE, Renzie, SC2c, USN
CLARE, George D., CCM, USN
COLEMAN, Thomas, CCM, USN (Ret)
COLLIER, BM2c, USN
CONNER, Kenneth A., Sealc, USN
CONRAD, Glenn R., WT1c, USN
COOPMAN, Benjamin F., WT1c, USN
CROSS, Ira L., AOM2c, USN
CZUCHRAN, Leon, CEM, USN
DAVIS, L.V., SC1c, USN
DAVIS, Raymond C., CBmkr, USN
DAVIS, Wtlc, USN
DeHAVEN, Dwight G., MM2c, USN
DeVERE, W.H., PhM2c, USNR
DUNNING, T.A., MM1c, USN
EDWARDS, George T., Sealc, USN
ENGLISH, Charles S., CBM, USN
EPSTEIN, Fred S., CPhM, USNR
FABIAN, Francis M., RM3c, USNR
FARRINGTON, James A., Cox, USN
FAULK, Henryard G., F2c, USNR
FLAHERTY, Terrence F., MM2c, USN
FLOOD, Vernon J., SF3c, USN
FOGARTY, Earl E., SF2c, USN
FREUDENTHAL, Frank W., GM3c, USN

- 9 -

ENCLOSURE (A) 225

DECLASSIFIED

Authority NND960035

U. S. S. YORKTOWN
PACIFIC FLEET

Subject: Executive Officer's Report of Action for Period
of June 4 - June 7, 1942.

FULLER, Earl L., SC2c, USN
FULMER, Thomas W., F.1c., USN
GLEESON, Robert J., F2c, USN
GOSSAGE, Joseph M., MM2c, USN
GURR, Julian M., RMLc, USN
HARBERT, Martin W., Y1c, USN
HARNED, Robert W., PhMLc, USN
HAYWOOD, E.C., Sealc, USN
HEARST, Ray, CMM, USN
HEATH, Joe D., Sealc, USN
HEINRITZ, Frederick J., CMM, USN
HENRY, George C., GM1c, USN
HESS, LB, SC2c, USN
HICKMAN, Euclid J., SF3c, USN
HILL, Mallory P., Sea2c, USNR
HOLMES, P.E., MMLc, USN
HOPKINS, William B., RM2c, USN
HUGHES, Charles E., WT2c, USN
JARDELL, Elton, MMLc, USN
JEFFARES, John H., WT2c, USN
JEREMY, Harold J., EM3c, USN
JONES, Dale C., MMLc, USN
KAPLYAWKA, Michael, WT1c, USN
KASBEER, James V., Sealc, USN
KELLY, Dennis A., Bnkr1c, USN
KERR, Richard A., RM3c, USNR
KING, Bearch, Flc, USN
KISER, Howard K., QM2c, USN
KISELA, Joseph, CSF, USN
KLEIN, Irvin J., MMLc, USN
KROLL, Paul E., SMLc, USN
KUZINSKI, Raymond, SF3c, USN
LAINSON, Russell J., SK2c, USN
LANCASTER, William W., Y2c, USNR
LAWRENCE, Robert J., Cox, USN
LAWSON, George W., SM2c, USN
LINDGUIST, Clarence A., AOM2c, USN
LUCKIESH, Francis J., WT2c, USN
LYONS, Frank L., AMLc, USN
MAKAROWICZ, Bronislaw, GM3c, USN
MALEY, James E., BMLc, USN
MALONE, Cam A., MM2c, USN
MALONEY, James D., BM2c, USN
MARKWART, Emil, SF3c, USN
McCORD, John W., EMLc, USN
McGRATH, John, CSF, F4D, FR
McLANNY, Donald H., CMM, USN

- 10 -

ENCLOSURE (A)

226

DECLASSIFIED

Authority NND960035

U. S. S. YORKTOWN
PACIFIC FLEET

Subject: Executive Officer's Report of Action for Period
of June 4 - June 7, 1942.

McLAURY, D.H., CMM, USN
McLOUGHLIN, Emmett J., SM3c, USN
MILLS, Andrew, OCC, USN
MEARS, P2c, USN
MORTON, Edward A., SF2c, USN
MURPHY, Meade E., WT1c, USN
NEAL, Fay E., EM1c
NEYER, Walton J., SF2c
PAINTER, Roger, Sealc, USN
PALTRIDGE, Byron F., Sealc, USN
POLAINO, Alphonse, Sea2c, USN
POOLE, Nathaniel, CMM, USN
REDDOCK, T.W., WT2c, USN
ROGERS, EM1c, USN
RITTER, Herbert L., ACMM, USN
ROBINSON, Everett E., BM1c, USN
ROUSE, Francis C., CM3c, USN
ROY, William G., P.2c., USN
RUSH, Tom, OC3c, USN
RYAN, James A., SF2c, USN
SAMPSON, Mervin, AOM3c, USN
SHAFFER, O.C., PhM3c, USN
SMITH, Archie T., CM2c, USN
SMITH, Benton, WT2c, USN
SMITH, R.M., MM1c, USN
SLEDGE, Matt2c, USN
STEVENS, John O., SM1c, USN
STATCHEN, Henry J., CY(AA), USN
STURAK, John, CEM, USN
SUTCLIFFE, Jay W., MM1c, USN
THOMAS, Charles W., SM2c, USN
TONN, John, WT1c, USN
TURNER, James G., AMM1c, USN
VANDARO, Alfonso, Flc, USN
VAVREK, George, CWT, USN
VERBONCOUER, Bernard F., Sealc, USN
WALSH, John A., Sealc, USN
WATERHOUSE, William J., WT1c, USN
WATERS, Charles, Jr., CWT, USN
WEBER, Harry E., BM1c, USN
WENDELL, Albert E., ACMM, USN
WHALEN, Wallace E., SM3c, USN
WILSON, Donald W., EM1c, USN
WILSON, James E., WT2c, USN
WILSON, James R., CPhM, USN
WOOD, Charles E., SK2c, USN
WRIGHT, W.E., CEM, USN
YOUNG, George N., Sealc, USN
SMOLENSKI, E.B., ACMM, USN

- 11 -

ENCLOSURE (A)

227

DECLASSIFIED

Authority NND960035

U. S. S. YORKTOWN
PACIFIC FLEET

Subject: Executive Officer's Report of Action for Period
of June 4 - June 7, 1942.

7. It is recommended that the following men be advanced to the next higher rating for the reasons given:

TAYLOR, Verdie (n), 355 66 09, CGM, USN (To Gunner, USN)

For cool and studied action in getting ammunition out of magazines to forward 5" gun groups, flooding the forward magazine group only when the temperature had begun to approach the danger mark and leading the magazine and handling crews to safety while a fire raged in the compartment above.

POWELL, Robert Stevenson Smyth Boden, 158 71 24, CTM, USN.
(To Gunner, USN)

For cool and careful performance of a dangerous duty when, assisted by Chapman, TM3c, and PADGETT, T., TMLc, he secured a fully ready torpedo which had been on the hanger deck for rearming planes. During this operation Chapman was killed and Padgett wounded by splinters from a bomb hit.

PADGETT, T., TMLc, USN (To CTM)

For assisting Powell and Chapman in the action described above.

YACHANECK, Mike, 258 37 92, Sea2c, USN (To Sea.lc.)
CANZONERI, Anthony, 644 05 33, Sea2c, USN (To Sea.lc.)

These men stood stubbornly in the intense heat and heavy black smoke on the starboard signal searchlight platform and fought the fire there until it was completely out.

LEE, A.L., Cox., USN (To BM2c)

Lee pulled an exhausted swimmer who had no life jacket from the ship to the nearest destroyer.

CANTON, Perry Edward, 289 282, Sgt, USMC (To Plat.Sgt)

Remained aboard to the last searching for and removing wounded men while the ship was believed to be in immediate danger of turning over.

KIKOS, Peter (n), Corporal, USMC, 389 300 (To Sgt)

Remained aboard to the last searching for and removing wounded men while the ship was believed to be in immediate danger of turning over.

U. S. S. YORKTOWN
PACIFIC FLEET

Subject: Executive Officer's Report of Action for Period of
June 4 - June 7, 1942.

SCHULTZ, Peter (n), 309107, pfc, USMC (To Corporal)

Remained aboard to the last searching for and removing wounded men while the ship was believed to be in immediate danger of turning over. And, in addition, swam with one wounded man about one mile before being picked up.

KOZLOSKI, Stanley Charles, 305 102, Pfc, USMC (To Corporal)

Remained aboard to the last searching for and removing wounded men while the ship was believed to be in immediate danger of turning over. And, in addition, held a wounded man in the water, holding to a towing spar until picked up.

BARR, Charles C., AMM1c, USN (To ACMM)
BYMAN, Everett T., AMM1c, USN (To ACMM)
JACOBS, Arthur G., AMM2c, USN (To AMM1c)
MOON, Leroy A., AMM2c, USN (To AMM1c)

For their coolness and attention to duty in checking gasoline lines and preparing the aviation gasoline system for use after attack.

PRUSLOW, Harry R., Sea.lc., USN (To Coxswain)

For rescuing a Mess Attendant who was without any life jacket. He gave his own life jacket to the Mess Attendant, who it is believed would have drowned without assistance, and thereafter remained in the water assisting other individuals who were in trouble until all nearby were safe.

SHOEMAKER, John B., AMM3c, USN (To AMM2c)

For continuing to man his station as telephone talker and maintaining communications without calling for assistance until after the attack was completed although very painfully and seriously wounded.

WHIDDEN, Harry H., Aerog.3c., USN (To Aerog.2c.)

For his coolness and attention to duty in the face of enemy attack; while manning his telephone in an exposed station. He maintained communications with all stations and did not secure his station until he had checked that personnel at all stations had been instructed to abandon ship.

DECLASSIFIED
Authority: NND960035

U. S. S. YORKTOWN
PACIFIC FLEET

Subject: Executive Officer's Report of Action for Period of
June 4 - June 7, 1942.

MILHOLIN, R.B., SK2c, USN (To SK1c)
HAGUE, J.C., SK2c, USN (To SK1c)

During the battle on June 4th these men were stationed as Radar Operators, one of the most vital battle stations on the ship. In this capacity they contributed greatly to the ability of the ship to destroy many enemy aircraft.

It is further recommended that the above named men be awarded a letter of commendation from the Secretary of the Navy.

8. It gives me great pleasure to state that every officer and man in the crew of the YORKTOWN volunteered for the salvage party. It was necessary to restrict the number taken back aboard because it was useless to risk more lives under the conditions that prevailed at the time.

9. Due to the fact that the air group did not return aboard, a separate list of awards and recommendations is being submitted to the Commanding Officer by the Air Group Commander.

Respectfully,

I. D. Wiltsie
I. D. WILTSIE,
Commander, U.S. Navy,
Acting Executive Officer.

7 146

Vita

Born in Orange, Texas, David Bergeron graduated from Bridge City High School in 1968. He received a Bachelor of Arts degree in History from Lamar University in Beaumont, Texas in 1972. Experienced in ship construction, design, planning, and trades management, the author retired in May 2011 following a 40 year shipbuilding career. David resides in Harahan, Louisiana and volunteers at The National World War II Museum. He enjoys travel to European World War II battlefields and American Civil War sites. He is married to his beautiful wife, Lee Ann. He has two wonderful daughters, Carey and Jennifer, plus a lovely granddaughter, Kaegan Rene, who constantly reminds him of the joy of being young and making new discoveries.