



H-Gram 005: The Battle of the Coral Sea

24 April 2017

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1. The Bomb That Changed the Course of the War

On 8 May 1942, 24 SBD Dauntless dive bombers from USS Yorktown (CV-5) commenced an attack on the Japanese fleet carrier IJN Shokaku in the Coral Sea. As each bomber nosed over in near-vertical dives from 18,000 feet on the wildly maneuvering Shokaku, their windscreens and bomb sights fogged over so badly during the descent that the U.S. pilots were blinded, forced to release their bombs "by memory." Although one bomb hit the Shokaku very near the bow and started a serious fire, one bomb after another missed. Finally one SBD, piloted by Lieutenant John Powers (U.S. Naval Academy '35), his wing on fire after being hit by canon fire from a Japanese Zero fighter, pressed his dive well below the standard minimum pull-up altitude. Power's bomb hit Shokaku nearly dead center and caused horrific and nearly fatal damage, starting massive



USS Lexington (CV-2) during the Coral Sea action, seen from USS Yorktown (CV-5), 8 May 1942. Large number of planes on deck and low sun indicate that the photo was taken early in the morning, prior to launching the strike against the Japanese carrier force. Yorktown has several SBDs and F4Fs on deck with engines running, apparently preparing to take off. Lexington, whose silhouette has been altered by the earlier removal of her 8-inch gun turrets, has planes parked fore and aft, and may be re-spotting her deck in preparation for launching aircraft (80-G-16569).

fires and killing over 100 Japanese sailors. Unable to pull up in time, Powers flew through the frag pattern of his own bomb and crashed alongside the Shokaku. Although 15 dive bombers off the USS Lexington (CV-2) would later manage to hit the Shokaku with one more bomb, it was Power's bomb that knocked Shokaku out of action for the rest of the battle, leaving her unable to recover aircraft, and with damage so severe that she was unable to participate in the critical and decisive Battle of Midway one month later, where her presence could have easily turned that battle into a catastrophic defeat for the United States. By the sacrifice of his life

and that of his radioman-gunner (Radioman Second Class Everett Clyde Hill), Powers quite likely prevented the loss of the Yorktown at the Battle of the Coral Sea and changed the outcome of two of the most important battles of World War II. For his valor, Powers was awarded the Medal of Honor, posthumously. Hill's parents received his \$10,000 G.I. life insurance policy payout.

Attachment H-005-1 shows Japanese carrier Shokaku under attack by USS Yorktown VB-5 SDB Dauntless dive bombers taken from a Yorktown VT-5 TBD Devastator torpedo bomber during the Battle of the Coral Sea on 8 May 1942. Shokaku's forecastle is on fire from the first bomb hit and heavy black smoke amidships suggests this photo was taken moments after Lieutenant Powers' bomb hit, which took Shokaku out of the battle (and out of the Battle of Midway too.)

2. Carrier vs. Carrier (Us Versus Them)

American and Japanese carriers and carrier air groups had significant strengths and weaknesses relative to each other. Most histories "mirror image" Japanese doctrine and tactics with those of the United States, which frequently leads to an inaccurate understanding of the battle. There are two recent books that superbly describe Japanese carrier operations and are worth a read: *Shattered Sword* by Parshall and Tully, and *Kaigun* by Evans and Peattie. Both are over 500 pages long, so if you read my synopsis (derived from those books and many others) in attachment H-005-2 you will become a lot smarter about the relative capabilities of the United States and Japanese carriers and air groups at the Battles of the Coral Sea and Midway, in a much shorter period of time, and the battles might make more sense to you.

3. The Battle of the Coral Sea, 7-8 May 1942

The Battle of the Coral Sea was the first carrier versus carrier battle in history; opposing surface forces never sighted each other. The battle occurred because U.S. naval intelligence provided Admiral Nimitz with sufficient warning and understanding of

Japanese intent and capability that he chose to commit the two carriers Lexington (CV-2) and Yorktown (CV-5) against a Japanese force expected to consist of 2-3 carriers (Shokaku, Zuikaku and the small carrier Shoho.) Nimitz committed the Enterprise (CV-6) and Hornet (CV-8) as well, but they were unable to reach the area in time, due the timing of the Doolittle Raid (see H-Gram 004). The battle was a tactical draw (some accounts argue a tactical U.S. loss) but a strategic victory for the United States. The Japanese force failed in its objective to capture Port Moresby, New Guinea, which would have threatened the northeast coast of Australia. Although the Japanese had previously suffered setbacks, this was the first time that proved permanent. In addition, the Japanese carrier Shokaku was severely damaged, and attrition to the air groups of both Shokaku and Zuikaku caused both carriers to miss the decisive battle of Midway a month later, which almost certainly changed the course of that battle, and of the war. The Japanese also lost the small carrier Shoho on 7 May to a gross over-kill of U.S. carrier torpedo and dive bombers, and was the first carrier lost by either side in the war. The cost to the United States was high. The carrier USS Lexington was sunk as a result of secondary explosions following torpedo and bomb hits, the Yorktown was damaged by a bomb (but not hit by torpedoes, which was the critical factor in her being repaired in time for Midway), and the oiler USS Neosho (AO-23) (which had survived being moored right in the middle of the attack on Battleship Row at Pearl Harbor) was sunk, along with the destroyer USS Sims (DD-409). At the end of the second day of battle, the air groups on both sides were severely depleted with extensive losses, with Lexington sinking and Shokaku out of action. Both commanders, Rear Admiral Frank "Jack" Fletcher and Vice Admiral Takeo Takagi, opted to withdraw, which resulted in years of criticism of both by other naval officers and armchair historians (Takagi was pilloried by Admiral Yamamoto; Fletcher merely criticized, mostly behind his back). Please see attachment H-005-3 for more detail on the Battle of the Coral Sea.

Attachment H-005-4 shows USS Lexington (CV-2) at the Battle of the Coral Sea on 8 May 1942 in a photo taken from a Japanese aircraft. Lexington has been hit by two torpedoes (the first proved fatal) and two

bombs, and is bracketed by numerous other near misses.

4. Meanwhile in the Atlantic: The "Second Happy Time"

Due to the demands of my day job and the focus on WWII in the Pacific and WWI, I have not written on WWII in the Atlantic after Pearl Harbor yet. My intent is to "catch up" the Atlantic in July during the lull between Midway and Guadalcanal. But, in brief, the initial months of the war in the Atlantic went very badly. The Germans reacted faster than we did, and German U-boats were operating off the coast of the United States (which didn't happen in WWI) faster than the U.S. was able to establish a system of convoys. U-boats sank so many ships so fast off the U.S. east coast that the spring of 1942 was known as the "Second Happy Time" by the U-boat crews. (The "First Happy Time" was in the early days of the war before the British managed to get some semblance of their act together.) Historians have tended to heap considerable blame for the sorry state of affairs on the Commander-in-Chief U.S. Fleet/Atlantic Fleet, Admiral Ernest J. King. (King became Chief of Naval Operations and retained the U.S. Fleet Hat in March 1942). King supposedly disliked the British so much that he was loath to implement a "British idea" of convoys, and therefore the United States was too slow (or "failed to learn the lessons of WWI") in implementing convoys on the U.S. east coast. King wasn't very favorably disposed toward the British, but then he wasn't favorably disposed toward just about anyone, and King's predispositions and sour demeanor had little to do with it (more on King in a future H-gram). The reality had far more to do with a lack of resources than with a resistance to working with the British or incorporating foreign ideas. The U.S. simply did not have enough destroyers; those that were in the Atlantic were committed and stretched thin escorting transatlantic convoys across the western half of the Atlantic, which the United States had been doing well before the start of the war, on occasion engaging in combat with German U-boats well before Pearl Harbor. Those critical convoys still needed to be escorted after war was officially declared, and the U.S. Navy continued to do so. The United States had also already "loaned" 50

WWI-vintage destroyers to the British as part of the 1940 "Destroyers for Bases Agreement" which contributed to the shortage. In the spring of 1942, there simply were not enough destroyers and patrol craft to provide escorts for merchant traffic going up and down the U.S. east coast. Convoys, without escorts, would have only made the U-boats' targeting problem even easier. Regardless, the result was a pretty grim tally of carnage up and down the U.S. east coast.

Please see attachment H-005-5 for additional detail on the first U.S. Navy combat actions against German U-boats in April and May 1917, the first U.S. naval officer killed in action in WWI, and the first underway refueling in history. In addition, while sending destroyers to combat the U-boats seems like a no-brainer today, Rear Admiral Sims' recommendation to do so actually provoked heated opposition among senior naval officers in the Navy Department in Washington, DC, at the time.

For anyone who may have missed previous H-grams, the most recent one (this one) can be found in the Director's Corner. For "back issues," toward the bottom of that page is the Content Library where all H-Grams are listed.

Also NHHC's website and blog The Sextant have a lot more content (and a lot more pictures) on significant historical events such as the Battle of the Coral Sea.



Japanese carrier Shokaku under attack by USS Yorktown VB-5 SDB Dauntless dive bombers during the Battle of the Coral Sea, 8 May 1942 (80-G-17031).

H-005-1: *Shokaku*

*H-Gram 005, [Attachment 1](#)
Samuel J. Cox, Director NHHC
April 2017*



U.S. Navy pre-war carriers: USS Saratoga (CV-3) (foreground) and USS Lexington (CV-2) off Honolulu and Diamond Head, Hawaii, 1932 (NH 50210).

H-005-2: Carrier Versus Carrier (Us Versus Them)

H-Gram 005, [Attachment 2](#)
 Samuel J. Cox, Director NHHC
 18 April 2017

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The greatest advantage the Japanese had in the first months of the war was the ability to quickly launch a massive multi-carrier coordinated and integrated strike package, under a single strike commander, and conduct a well-timed, coordinated, multi-axis attack on the target. At the Battle of Midway, the Japanese launched a 108-plane strike from four carriers in seven minutes, formed up and en route to the target (Midway Island) in 15 minutes, with 107 planes in reserve

to be launched against U.S. carriers should they be detected. Japanese doctrine (like the U.S., frequently violated) called for each carrier to launch half its aircraft, that would form up into a single strike package under a single strike leader, while the other half of each carrier's air wing was held in reserve for contingency or to launch a second wave (as at Pearl Harbor.) The United States could not remotely duplicate this feat, taking close to an hour to launch a similar size strike (90 aircraft) from two carriers that proceeded to the target (the Japanese carriers) in widely separated and uncoordinated groups. Both the Japanese and the United States could spot about half their air group for a launch. By integrating the aircraft from multiple carriers into one strike package, the Japanese could complete the launch and push to the target much faster than the United States. The Japanese could then re-spot the deck for a second wave, or to await updated contact information. The American

approach required the first half of the strike package to orbit and wait for the second half to be spotted and launched, and the second spot almost always had some complication that resulted in delay, and a serious fuel shortage amongst the aircraft from the first spot.

U.S. doctrine (like the Japanese, frequently violated) called for each carrier and escorts to operate as an independent task force, and for each air group to launch their full complement of aircraft in an independent strike, that might be loosely coordinated in timing with another carrier air group. The principle advantage of this approach was that it kept the enemy from finding (and destroying) all the carriers at once. The major disadvantage was that it frequently resulted in uncoordinated strikes and diffused combat air patrol (fighter) defense. The Japanese were even more fixated on the Mahanian principle of offense, and determined that massing their carriers into a single task force gave them the greatest offensive punch, and also allowed them to mass their fighters into a more coordinated defense. Debate regarding which approach was better raged in both navies prior to the war. The U.S. approach nearly cost the U.S. victory at Midway. The Japanese approach significantly contributed to their defeat at Midway.

In the Japanese Imperial Navy, a carrier division (two carriers) was a highly trained, integrated tactical formation, unlike in the U.S. Navy, in which a carrier division was mostly an administrative function. CARDIV 1 (*Akagi* and *Kaga*), CARDIV 2 (*Hiryu* and *Soryu*), and CARDIV 5 (*Shokaku* and *Zuikaku*) constituted the *Kido Butai* (Mobile Striking Force.) Each CARDIV could operate independently, but splitting a CARDIV (or crippling one of the two carriers) resulted in a severe degradation in combat capability, which is what happened at Coral Sea, and what prevented *Zuikaku* from participating at Midway.

Numbers

United States: At the outbreak of World War II, the United States had seven aircraft carriers. The *Langley* (CV-1) had been converted to a seaplane tender and was lost off Java in February 1942 and is not counted. *Ranger* (CV-4,) the first U.S. carrier built from the keel up as a carrier, was not considered capable of operating as a front-line carrier against the Japanese, but did provide useful service in the Atlantic. *Lexington* (CV-2) and *Saratoga* (CV-3) were converted battlecruiser hulls and had served in the Pacific since being commissioned in 1927. *Saratoga* was torpedoed by Japanese submarine *I-6* in January 1942 and was out of action until June 1942, missing the Battle of Midway, although significant parts of her air group did participate as replacements on board *Yorktown*. *Lexington* was sunk on 8 May 1942 in the Battle of the Coral Sea. *Wasp* (CV-7) was a one-of-a-kind design (treaty-limited) that was not considered especially successful; she served in the Atlantic until July 1942 (including flying off British Spitfire fighters to assist in the defense of Malta) before arriving off Guadalcanal to operate briefly before being torpedoed and sunk by Japanese submarine *I-19* on 15 September 1942. The three *Yorktown*-class carriers (*Yorktown* [CV-5], *Enterprise* [CV-6], and *Hornet* [CV-8]) were arguably the most-capable and best-designed of any carrier in any navy to that date. *Yorktown* and the new *Hornet* were in the Atlantic at the start of the war and were brought around to the Pacific. *Yorktown* was damaged at Coral Sea, quickly repaired, and then heavily damaged by Japanese dive-bombers and torpedo bombers from the Japanese carrier *Hiryu* before being torpedoed and sunk by Japanese submarine *I-168* at the Battle of Midway. *Hornet* was sunk at the Battle of Santa Cruz in October 1942, while *Enterprise* survived the war as the most highly combat-decorated U.S. ship in history. During World War II the United States commissioned 17 new *Essex*-class carriers, 9 new *Independence*-class light carriers (on converted light cruiser hulls), and over 100 smaller and much slower escort carriers, demonstrating a U.S.

industrial shipbuilding capacity that the Japanese could not remotely match (in part, because of U.S. submarines sinking Japanese merchant ships carrying critical raw materials.)

Japan: Japan began the war with 10 carriers, but only six were large “fleet” carriers comparable to the U.S. carriers, the others were a hodgepodge of medium and light carriers based on converted submarine tenders and other vessels, with limited capabilities. Like *Lexington* and *Saratoga*, *Akagi* and *Kaga* were 1927/28-vintage converted battlecruiser (*Akagi*) and battleship (*Kaga*) hulls. Like the *Yorktown*-class, the newer (late 1930s-vintage) *Hiryu* and *Soryu* were smaller than the converted carriers, but were very capable and very fast. *Akagi*, *Kaga*, *Hiryu*, and *Soryu* were all sunk at the Battle of Midway. The newest Japanese fleet carriers, *Shokaku* and *Zuikaku*, were highly capable and the most successful Japanese carrier designs of the war; the Pearl Harbor strike was essentially the shakedown cruise for *Zuikaku*. Both survived numerous battles before being sunk: *Shokaku* by U.S. submarine *Cavalla* (SS-244) at the Battle of the Philippine Sea (June 1944) and *Zuikaku* by U.S. aircraft at the Battle of Leyte Gulf (October 1944). During the war, Japan only produced one large fleet carrier that made it into battle, *Taiho*, sunk by U.S. submarine *Albacore* (SS-218) at the Battle of the Philippine Sea. *Shinano*, a conversion from the third huge *Yamato*-class battleship hull, was sunk by USS *Archerfish* (SS-311) in November 1944 before she had even commenced sea trials. Several other fleet carriers were in various stages of (mostly suspended) completion when they were bombed, sunk, or damaged by U.S. carrier aircraft in Japanese home ports in the last months of the war.

Carrier Air Groups

(In the U.S. Navy, carrier air groups became carrier air wings in 1963)

United States: U.S. Navy carriers could generally carry more planes than Japanese carriers, and the Navy was willing to keep numerous planes parked on the flight deck, so air groups were larger, with 60–70 aircraft. In the first years of the war, U.S. Navy air groups typically consisted of one fighter squadron (VF) of 18 F-4F Wildcats, one squadron (VT) of 12–18 TBD Devastator torpedo bombers, and two squadrons of SBD Dauntless dive-bombers (16–21 aircraft each.) One of the SBD squadrons was designated as a “bombing” squadron (VB) and the other as a “scouting” squadron (VS.) In practice, there was little difference in the employment of the VB and VS squadrons: Sometimes the VB would carry 1,000-pound bombs (with shorter range) and the VS would carry 500-pound bombs (with longer range), but both could do either. The U.S. Navy was generally fixated on the bombing capability and neglected scouting “ISR” capability (with significant negative effects in several battles), despite extensive exercise experience that showed that whichever carrier force found the other first had a decisive advantage.

Initially, the numerical designation of each U.S. Navy squadron matched the hull number of its parent carrier (Torpedo Squadron EIGHT [VT-8] embarked on USS *Hornet* [CV-8] for example.) An exception to this at Coral Sea was that the fighter squadron on *Yorktown* (CV-5) was VF-42 (the rest of the air group consisted of VB-5, VS-5, and VT-5.) The system began to further fall apart at Midway, when some *Saratoga* (CV-3) squadrons replaced battle-attrited *Yorktown* squadrons (VT-3 replaced VT-5 and operated off *Yorktown* at Midway for example.) Air groups were known by their parent carrier (e.g. “*Enterprise* Air Group”) until later in 1942 when a number corresponding to the parent carrier was implemented (CAG 6 embarked on *Enterprise* [CV-6]) for example.) The whole system got too complicated and was abandoned during the war; air groups and squadrons thereafter retained their number regardless of which carrier they were embarked on.

Japan: Although Japanese carriers had two hangar decks (an upper and a lower), the Japanese did not keep planes parked on the flight deck as the U.S. Navy did. As a result, Japanese air groups were smaller, roughly 50-60 operational aircraft. A typical Japanese carrier would carry 18 Mitsubishi A6M2 Type 0 fighters (code-named "Zeke" but usually referred to as "Zero"), 21 Aichi D3A1 Type 99 "Val" dive bombers and 21 Nakajima B5N2 Type 97 "Kate" torpedo bombers, which could also be used as high-altitude horizontal bombers. (The "Type" number referred to the imperial calendar year in which the aircraft was introduced. The "Zero" [actually "00"] derived from imperial year 2600, which corresponded to 1940.)

The basic unit of Japanese naval aviation organization was a three-plane *shotai* and nine-plane *chutai*. A Japanese rough equivalent to a squadron would generally consist of some multiple of three and nine, such as 18, 21, or 27 aircraft. Unlike U.S. air groups, Japanese air groups and associated maintenance personnel were all integral "ship's company." The Japanese did not have the capability to rapidly shift groups or squadrons from carrier to carrier such as the United States did just before Midway, by putting squadrons from *Saratoga* (left on the beach in Hawaii after the carrier was torpedoed) onto *Yorktown* to replace and/or supplement losses incurred by *Yorktown's* squadrons at Coral Sea. By contrast, even though *Zuikaku* was undamaged at Coral Sea, the Japanese were unable to "cross-deck" and combine remnants of *Shokaku's* and *Zuikaku's* air wings into an effective force in time for the Battle of Midway. So, the undamaged *Zuikaku* also missed Midway because she could not reconstitute an air wing in time (although a case could be made that the over-confident Japanese didn't try hard enough to do so). Also, although combat losses in the months after Pearl Harbor were low, operational attrition was already outstripping Japanese ability to replace aircraft. Thus, at the Battle of the Coral Sea, all Japanese

carriers had fewer embarked aircraft than their maximum complement. The same was true at Midway, but compensated by additional Zeros that had been embarked to be ferried to and flown from Midway after the Japanese captured it, according to the Japanese plan. The Japanese were even more fixated on bombing instead of scouting than the United States, preferring to leave the "search" mission to catapult-launched float planes from cruisers and battleships, and long-range flying boats as much as possible. Using carrier aircraft to conduct searches was viewed as a "waste" of an attack asset, even though the Japanese also clearly understood that whichever side found the other first would almost always "win" the exercise. Like the U.S. Navy, the Japanese frequently paid for their inadequate attention to "ISR" dearly at Coral Sea and Midway

Plane Versus Plane

Fighters: The F-4F Wildcat was significantly inferior to the Japanese Zero fighter in terms of maneuverability, dogfighting capability, and range. Wildcats that attempted to "mix-it-up" with Zeroes usually met a quick end. However, the Wildcat had more powerful armament, more armor, self-sealing gas tanks, much better radio, and could withstand a lot more punishment than a Zero, which tended to turn into a flaming torch when hit with a few rounds. With the right tactics (stressing teamwork and diving one-pass hit-and-run) and experienced pilots, Wildcats could make it an even fight. If the Wildcats could get through the Zeros (or better yet, avoid them) they were quite capable of downing numerous Japanese dive- and torpedo bombers.

Torpedo Bombers: At the start of the war, both the United States and Japan viewed torpedoes as the true ship killers (correctly). When the TBD Devastator entered the fleet in 1937, it was the most advanced, state-of-the-art carrier bomber in the world. By 1942, it had been surpassed in capability by the much better Japanese B5N2 Kate. Comparison between the TBD and the Kate

is somewhat meaningless since they didn't fight each other. How they stood up to enemy defenses, particularly fighters, is what mattered. The Kate was faster, and had a much better torpedo that could be dropped from higher altitude and at a greater airspeed than the TBD, which gave it a significant survivability advantage. However, if Wildcats could make the intercept, Kates would go down in flames even more readily than a TBD. The most critical weakness of the TBD was its torpedo, which required the TBD to fly even slower than the aircraft's too-slow maximum speed, and to fly so low that the TBD could not maneuver. The torpedo was so slow (35 knots) that most target ships could easily outrun it. Faced with a torpedo attack, Japanese carriers would generally turn away at high speed, forcing the torpedo planes to make a very long run to get ahead of the carrier, providing much more time for the fighters to engage. Like their submarine- and surface-launched counterparts, U.S. aerial torpedoes frequently failed to detonate properly even when they hit the target.

Dive-Bombers: Both the SBD Dauntless and Val dive-bombers were great aircraft superbly suited to their mission. The Val looked like a throwback with fixed landing gear, but its performance approximated that of a SBD, but with longer range and smaller (but effective) payload. The Val's lack of folding wings was one factor that constrained Japanese air group size. Like the Wildcat, the SBD was a rugged aircraft that could absorb considerable punishment (which increased the vulnerability of attacking Zeros to defensive fire). The SBD was maneuverable enough that in some U.S. air wings it was used in an anti-torpedo bomber role (and anti-submarine role).

Anti-Aircraft Defense

At the outset of World War II, U.S. carrier triple-A defense was very poor. Japanese carrier AAA defense was even worse. Neither side had weapons that were effective against dive-

bombers and only marginally effective against torpedo bombers. In most cases, defensive weapons lacked the range to effectively engage the target aircraft before bomb or torpedo release. At both Coral Sea and Midway, the vast majority of losses on both sides were due to enemy fighters (and running out of fuel). Only a minimal number were lost to AAA fire. By the time of Coral Sea and Midway, U.S. carriers and some cruisers were equipped with radar. No Japanese ships had radar at either battle. Radar-directed fighter control was still in its infancy, but was used effectively by the U.S. in several instances. However, it was easily overwhelmed in a mass attack. The United States kept cruisers and destroyer escorts in a circular formation close to the carrier to theoretically provide supporting AAA fire. Later in the war, with better weapons, this worked well, but early in the war this generally only resulted in increased risk of collision once the carrier started maneuvering to avoid bombs and torpedoes, and Japanese aircraft easily found the gaps between ships. The Japanese, on the other hand, viewed radical maneuver as the best carrier defense against air attack (besides the fighters) and Japanese escorts would steer well clear to give the carrier plenty of sea room to maneuver. Japanese escorts also didn't have enough AAA to defend themselves, let alone a carrier. Moreover, because of lack of radar, Japanese escorts were stationed farther from the carrier, at the horizon, to provide visual early warning of incoming raids. Upon detecting a raid, the escort would fire its main battery to alert the airborne fighters to the direction of attack, since the few radios the Japanese had in their fighters were very unreliable.

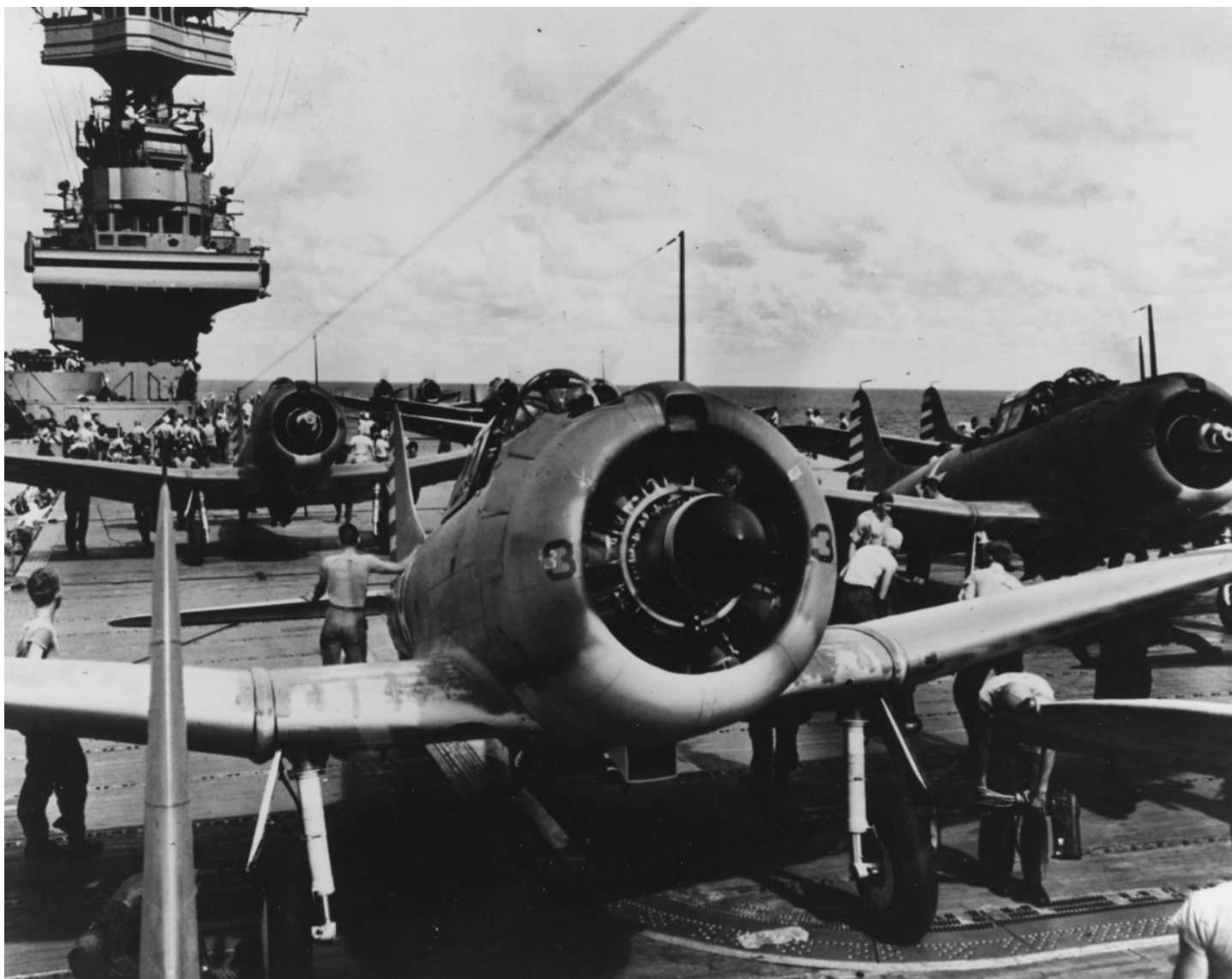
Damage Control

U.S. damage control was greatly superior to that of the Japanese, although many hard lessons were learned from the loss of *Lexington* at Coral Sea (and from the disaster at Pearl Harbor, for that matter). In the years since, many Sailors have spent many hours chipping paint to prevent the

buildup that fueled horrific fires on U.S. ships early in the war. The United States also incorporated lessons learned much faster than the Japanese. As an example, at Midway, *Yorktown* flooded her aviation fuel lines with inert CO₂ gas, almost certainly sparing her the secondary explosions that doomed *Lexington* at Coral Sea. The Japanese learned the vulnerability of the aviation fuel lines on *Shokaku* at Coral Sea, were able to save the ship, but then didn't pass the lessons on, contributing to the loss of four carriers at Midway.

On Japanese carriers, damage control was the responsibility of a specially trained cadre of engineering personnel (who were frequently killed by initial and secondary explosions) and no one else had received training. The result was that fires would be fought ineffectively by untrained crew with extraordinary valor and extremely high cost in lives. The Japanese had also not developed the system of "damage control conditions" that the U.S. Navy had (they had no equivalent to Yoke, Zebra, etc., nor did they have an effective "damage control central.") A critical design weakness of the Japanese carriers was that their hangar bays were completely enclosed. U.S. hangar bays had rolling partitions that could be opened to the weather, which enabled aircraft engines to be warmed up in the hangar bay; Japanese carriers had no such thing. The Japanese also fueled their aircraft in the hangar bay, then took the aircraft to the flight deck to warm up (U.S. carriers fueled aircraft on the flight deck). As a result, an explosion in a Japanese hangar bay would be unable to easily vent out of the ship as on a U.S. carrier, and, in combination with fueled aircraft, would have devastating consequences, which proved to be the case at Midway.

The theme that runs throughout the above was that the Japanese viewed "Offense" as the supreme virtue, and disdained "Defense" to their ultimate detriment. It worked well for the first six months of the war, then proved catastrophic.



USS Yorktown (CV-5) Bombing Squadron 5 (VB-5) SBD-3 aircraft spotted forward on the flight deck, during operations in the Coral Sea, April 1942. VB-5 painted individual plane numbers on the engine cowling, as seen here. Scouting Squadron 5 (VS-5) planes had the numbers on the wing leading edge (NH 95571).

H-005-3: Battle of the Coral Sea

H-Gram 005, [Attachment 3](#)
 Samuel J. Cox, Director NHHC
 18 April 2017

The Battle of the Coral Sea did not occur by accident. By early April 1942, Admiral Nimitz, Commander-in-Chief of the U.S. Pacific Fleet, knew from intelligence that the Japanese intended to launch a major operation against Port

Moresby New Guinea, which would constitute a serious threat to the northeast coast of Australia. By April, Nimitz had gained substantial confidence in his intelligence organization. During the course of the first months of the war, U.S. carriers had conducted multiple raids on the periphery of Japanese occupied ocean areas. The raids were not conducted at random, but were based on intelligence that indicated Japanese carriers would not be present to oppose the raids. The raids had multiple purpose, besides a need to “do something” to attack the Japanese; they also provided useful combat experience for U.S. forces in a relatively

low-risk environment (although Japanese land-based bombers nearly made that a bad assessment on several occasions), but each raid generated a flurry of Japanese communications (and communications security violations) that greatly helped U.S. Naval Intelligence break ever more of the Japanese naval operating code and to more accurately refine communications “traffic analysis” capability. As a result, by mid-April, Admiral Nimitz had a good idea of the Japanese plan, the forces committed, and the timing. Nimitz wanted to commit all four operational carriers (*Lexington*, *Yorktown*, *Enterprise* and *Hornet*—*Saratoga* was still in repair after being torpedoed by a submarine) but *Enterprise* and *Hornet* were already committed by Washington to the Doolittle Raid, and although they attempted to get to the battle area, were unable to do so in time. Although Nimitz didn’t fully realize it, given the capability of Japanese naval aviation, committing two U.S. carriers against two to three Japanese carriers was quite audacious. Nevertheless, as at the subsequent Battle of Midway, the U.S. carriers at Coral Sea would theoretically have the advantage of surprise, thanks to Intelligence, but that advantage would be squandered.

On the Japanese side, the Port Moresby Operation (Operation “MO”) was the result of a messy compromise. By early March 1942, with the exception of isolated U.S. forces valiantly holding out on the Bataan Peninsula and Corregidor Island in the Philippines, the Japanese had achieved all their pre-war objectives, over three months ahead of schedule. What to do next resulted in massive infighting between the Japanese army and navy and also internal to the Navy. The Japanese army, tied down in its endless war on the mainland of China and prudently keeping a very large force in Manchuria (after they had suffered a couple nasty defeats in clashes with Soviet forces in 1939), did not want to commit any of its 2,000,000 or so men to capturing any more islands in the Pacific, and they especially did not want any part of trying to

invade Hawaii (which the army viewed, probably rightly, as a high-cost loser).

The Japanese Navy General Staff wanted to exploit their success; some planners wanted to capture Ceylon (now Sri Lanka) and hopefully provoke an uprising against the British in India (then a British Crown Colony) while others wanted to drive across the Pacific to Fiji and Samoa, to cut the lines of communication to Australia, and still others wanted to capture the Aleutian Islands to prevent them from being used by long-range U.S. bombers against the mainland of Japan. Admiral Yamamoto, the Commander-in-Chief of the Combined Fleet, believed that the primary objective at this point should be to draw out and defeat the U.S. Navy carriers. Even before the Doolittle Raid, Yamamoto had decided that Midway Island was the place to spring a trap on the U.S. carriers, and the Raid only hardened his resolve and enabled him to beat down army and Navy General Staff resistance. When all the dust settled, Yamamoto had with great reluctance approved splitting his carrier force (“Kido Butai”) and sending CARDIV 5 (*Shokaku* and *Zuikaku*) to support an amphibious assault on Port Moresby, New Guinea in early May (which the army had very reluctantly agreed to support), with the intent that CARDIV 5 return to participate in the Midway Operation in early June. After Port Moresby was captured, and after the U.S. carriers were defeated at Midway, and the Aleutians taken in an operation concurrent with Midway, then the Japanese Navy intended to drive across the south Pacific. The problem was that there was no margin for error if the Port Moresby operation went bad for any reason, which it did, because of the unexpected opposition from U.S. carriers. Also, although the *Shokaku* and *Zuikaku* were the newest Japanese carriers, their air wings were the least experienced and viewed by the rest of the Kido Butai as the Japanese term for “B team” and Yamamoto may have felt they needed some additional practice. Nevertheless, both carriers were very experienced, formidable and capable foes.

As Task Force 11 (*Lexington*) and Task Force 17 (*Yorktown*) under overall command of Rear Admiral Frank "Jack" Fletcher waited in the Coral Sea for the Japanese invasion force to commence operations against Port Moresby, the Japanese sent a small force to capture Tulagi and Gavutu Islands and establish a seaplane reconnaissance base across the sound from Guadalcanal (a name which at the time meant nothing to anyone). Thinking *Lexington* was still engaged in refueling (she wasn't, but radio silence was affecting U.S. command and control), Fletcher took *Yorktown* north and attacked the Japanese landing force on 4 May 1942, catching it without air cover and essentially defenseless. In three waves over the course of the day, including 76 dive bomber sorties and 23 torpedo bomber sorties from *Yorktown*, U.S. pilots continued a trend observed in earlier raids of grossly overestimating the size, type, and number of Japanese ships present, as well as the number damaged and sunk, claiming several cruisers sunk (no cruisers were present) and several destroyers (one was present). The actual result of a huge expenditure of ordnance was that one Japanese destroyer was damaged and later beached, three small minesweepers and four landing barges sunk, and probably most importantly, all five H6K4 Type 97 "Mavis" flying boats present were destroyed, which adversely affected Japanese search capability at a critical point. The Japanese carriers, operating in radio silence as well, north of the Solomon Islands, were engaged in refueling and could not react fast enough to launch a counter-strike on *Yorktown*; they were, however, alerted to the presence of at least one U.S. carrier.

On the 5th and 6th of May, both U.S. and Japanese carrier forces tried to locate each other without success. Expecting the Japanese carriers to be supporting the invasion force that would have to round the eastern tip of New Guinea, U.S. carrier aircraft concentrated searches to the northwest, to no avail. Meanwhile, the Japanese carriers had rounded the eastern side of the

Solomon Islands and entered the Coral Sea from the east, unbeknownst to the United States. Although Intelligence had provided a good strategic situation to Fletcher, Japanese tactical communications security was superb (Fletcher also didn't trust his own radio intelligence capability even when it was accurate). However, Japanese commander Rear Admiral Takagi, believing he was in position to surprise and trap the Americans (and he was) opted not to use his own carrier aircraft initially for search (so as not to give away his presence) relying on long range land-based and flying boat reconnaissance, much of which had been significantly depleted at Tulagi, and one was shot down by a Wildcat fighter. Fletcher was not helped by inaccurate reports from General MacArthur's aircraft flying out of Australia that reported multiple carriers in company with the invasion force (and a lot else that wasn't there). The brand-new Japanese small carrier *Shoho* (18 operational aircraft) was in the vicinity of the invasion force, which confused matters. The result was that both commanders had lost situational awareness by 7 May.

Rear Admiral Fletcher made one of his most controversial decisions of the battle early in the morning on 7 May by detaching TG-17.3, under the command of Rear Admiral Crace, Royal Navy (consisting of the Australian cruisers HMAS *Australia*, HMAS *Hobart*, the U.S. heavy cruiser USS *Chicago* (CA-29), two U.S. destroyers, plus an additional attached U.S. destroyer). The heavy cruisers *Minneapolis* (CA-36), *New Orleans* (CA-32,) *Astoria* (CA-34,) *Chester* (CA-27), and *Portland* (CA-33) and nine destroyers remained with TF 17. Crace's mission was take his ships toward New Guinea and block the Japanese invasion force, which was covered by four heavy cruisers and other escorts. This action removed about a third of TF-17's escorts (and a third of its AAA defenses, which were not very effective to begin with), and without air cover, Crace's force was potentially vulnerable to the 40 or so Japanese land-based bombers operating out of Rabaul. It is believed that Fletcher based his

decision on pre-war exercise experience, during which opposing carrier forces usually neutralized each other very early in the "battle" leaving surface ships to accomplish the mission, in this case, preventing the invasion of Port Moresby. In fact, Crace's force was attacked later in the afternoon by two waves (about 30 aircraft total) of land-based twin-engine "Nell" bombers, in one of the more dismal performances in Japanese aviation history. The first wave of 12 Nells attempted a torpedo attack; five were shot down and no torpedoes hit. The second wave contented itself with a high altitude level bombing attack, with the usual results for that kind of attack, nothing. Displaying even worse ship recognition skills than U.S. pilots, the Japanese claimed to have sunk a California-class battleship, an Augusta-class cruiser, and damaged a Warspite (British)-class battleship, none of which were even remotely present. In reality, Crace's ships dodged over a hundred bombs with no hits due to skillful ship handling, although there were seven casualties on *Chicago* resulting from a strafing attack. Crace's ships were then attacked by three U.S. Army Air Force B-26 bombers from Australia; fortunately their bombing proficiency was even worse than the Japanese. Crace termed the B-26's accuracy as "disgraceful" (and a good thing for him).

At dawn on 7 May, neither the U.S. carrier force nor the Japanese carrier force knew where the other was, and both were searching in the wrong directions (in effect, both forces had gotten "behind" the other). Giving up on land-based reconnaissance, the Japanese launched carrier aircraft to search. A Japanese plane misidentified the oiler USS *Neosho* (operating well "behind" the U.S. carriers) as a carrier, and her escort, the USS *Sims* (DD-402) as a cruiser. Rear Admiral Takagi (a surface officer, and victor in the Battle of the Java Sea in Feb 1942) turned over tactical command to Rear Admiral Chuichi Hara (an aviator) who immediately launched a full strike from both carriers (not standard Japanese doctrine—which was to launch half from each

carrier, with the second half from each carrier for reserve/contingency) at what he thought was a U.S. carrier. A 78-plane strike (18 fighters, 24 torpedo bombers, and 36 dive bombers) rolled in on the luckless *Neosho* and *Sims*. The Japanese strike commander astutely recognized the error and diverted his torpedo bombers onto a fruitless search (but at least didn't waste torpedoes.) Four Val dive bombers hit *Sims* with three bombs, which sank quickly with high loss of life; the rest pummeled *Neosho* with seven hits and 15 near misses. Neither ship was able to radio a distress signal, so Fletcher remained clueless to the real location of the Japanese carriers. Initially abandoned, *Neosho* refused to sink—half her crew was able to get back on board and valiantly fought to save the ship, until she finally had to be scuttled on 11 May.

In the meantime, the U.S. carriers had combined into a single task force (17), with the carriers operating together instead of independently (in keeping with the tradition of the U.S. Navy ignoring our own doctrine) on the advice of Rear Admiral Aubrey Fitch (an aviator) to whom Fletcher delegated tactical control during air operations. An SBD dive bomber conducting a scout mission from *Yorktown* erroneously reported two carriers operating in the vicinity of the Japanese invasion force (the pilot used the codeword for carriers when he meant cruisers) in clear weather. Based on that incorrect report, the U.S. launched a full strike from each carrier (93 aircraft total...50 from *Lexington* and 43 from *Yorktown*.) Fletcher learned of the error after the launch, and opted not to attempt a recall (something that hadn't really been done before anyway) figuring that there were enough ships in the vicinity of the Japanese invasion force that there had to be something worth sinking, plus Fletcher still expected to find the Japanese carriers there anyway.

At about 1040, *Lexington's* air group found the small carrier *Shoho*. Fifty *Lexington* aircraft executed what was perhaps the best coordinated

U.S. carrier attack of the entire war. The dive bombers rolled in just ahead of the torpedo planes (the preferred sequence so that the dive bombers would draw fighters away from the more vulnerable torpedo planes and the bombs would disrupt Japanese AAA). *Shoho* was attempting to launch a strike with her limited assets against TF-17. *Shoho's* combat air patrol (one Zero and two older A5M "Claude" fighters) gamely tried to disrupt the attack, succeeding in shooting down only one SDB after bomb release. Nevertheless, despite her limited defensive capability, *Shoho* managed to dodge the first 13 bombs dropped. Two bombs then hit and ignited massive fires. *Lexington's* torpedo planes executed a near perfect "anvil" attack (from port and starboard bow, so that no matter which way the target turns, a beam aspect is presented to one of the attacking sections). Nine torpedo hits were claimed (at least five did hit, which were fatal). At about 1125, Yorktown's air group arrived and pounded the already burning stem-to-stern, listing, dead-in-the-water and sinking *Shoho* with another 19 or so bombs, and somewhere between two and ten more torpedoes. Not surprisingly, *Shoho* sank quickly with heavy loss of (203 of 834 survived). Meanwhile, none of the other Japanese cruisers, destroyers, and transports in the vicinity were scratched (some of which inflicted severe losses on U.S. ships in the later Solomon Islands campaign).

Given the number of U.S. carrier aircraft that attacked the *Shoho*, Rear Admiral Takagi was able to deduce that two U.S. carriers were involved as well as their approximate location. In a gamble that would have gone down in history as a brilliant move, had it worked, Takagi ordered a dusk attack on the American carriers, knowing that it would require night recovery in deteriorating weather on his carriers, something that neither navy did on purpose except rarely. The dangerous mission consisted of volunteers from among the very best Japanese pilots in 15 torpedo bombers and 12 dive bombers. The strike overflew the U.S. carriers, hidden below the

clouds. After jettisoning their ordnance, and transiting back toward their carrier, one flight of Japanese aircraft was detected by radar from the U.S. carriers, and with just enough light left, was ambushed by Wildcats out of the undercast; six torpedo bombers and one dive bomber were shot down at a cost of three Wildcats. The loss of the torpedo bombers would prove critical the next day. The remainder of the Japanese flight arrived over the U.S. carriers in darkness, mistook them for their own carriers, and attempted to recover on the *Yorktown*. One was shot down on approach (the ultimate "wave off") and the others got the message. At the time the U.S. and Japanese carriers were about 40-60 miles apart. Eighteen of the 27 Japanese planes managed to recover on their own carriers.

The 8th of May, 1942, played out just like numerous pre-war fleet exercises in both navies. Both sides' airborne scouts found each other about the same time, both sides attacked each other about the same time, and both sides effectively neutralized each other's carriers about the same time. Unlike the pre-war exercises, however, there was no Battle Fleet to clean up afterwards (the Japanese hadn't brought any battleships either).

At dawn on 8 May 1942, TF17, the *Lexington* and *Yorktown*, with 117 operational aircraft (31 fighters, 65 dive bombers, and 21 torpedo bombers) faced off against Carrier Division 5, the *Shokaku* and *Zuikaku*, with 96 operational aircraft (38 fighters, 33 dive bombers, and 25 torpedo bombers). Although the U.S. had numerical superiority, the weather favored the Japanese, as a front moved over the Japanese carriers hiding them under clouds, while the U.S. carriers were under mostly clear skies.

Japanese search aircraft launched at 0615. U.S. search aircraft launched at 0635. *Yorktown's* radar gained first contact on a Japanese scout but the Wildcats missed the intercept, and the scout issued a contact report on two U.S. carriers at

0822, confirmed by radio intelligence on both *Yorktown* and *Lexington*. At 0820, a U.S. SBD scout located and reported the Japanese carriers. The U.S. launched first at 0900, with 39 *Yorktown* aircraft (six fighters, 24 dive bombers and nine torpedo bombers). At 0907, *Lexington* began launching 36 aircraft (nine fighters, 15 dive bombers, and 12 torpedo bombers). The two air-groups proceeded independently to the target. Shortly after, *Shokaku* and *Zuikaku* launched a 69-plane strike (18 fighters, 33 dive bombers, and 18 torpedo bombers) in a single integrated strike package which pushed at 0930. At 1100, *Yorktown* dive bombers commenced their attack on the *Shokaku*. *Zuikaku* ducked under clouds and was not seen by any attacking aircraft. *Lexington's* aircraft would arrive at the target about 30 minutes later. At about 1115, the combined Japanese strike commenced its attack on both *Yorktown* and *Lexington* simultaneously.

At 1100, seven VS-5 (*Yorktown*) SBD Dauntless dive bombers attacked the *Shokaku*; harassed by Japanese fighters, all seven missed due to fogged windscreens and bombsights. At 1103, 17 VB-5 SBD's attacked the *Shokaku* with multiple misses due to the fogging problem. One bomb hit almost at the bow and started a fire. A second bomb, dropped by Lieutenant John Powers, at the cost of his own and his gunner's lives, hit near the island and started severe fires on the flight deck and in the hanger deck. *Shokaku* was unable to operate aircraft for the remainder of the battle due to this hit (Powers would be awarded a posthumous Medal of Honor). As VB-5 concluded its attack, the nine TBD torpedo bombers of VT-5 commenced their attack. Fighter escort kept the Zeros off the TBD's, but *Shokaku*, despite burning furiously, was able to avoid or outrun all the torpedoes. At 1130 part of *Lexington's* air group arrived over the *Shokaku*, but the remainder could not find the target due to the deteriorating weather. Four of *Lexington's* command group dive bombers scored one hit on *Shokaku*. Eleven *Lexington* (VT-2) torpedo planes attacked *Shokaku* but no torpedoes

hit. Two *Lexington* Wildcats were shot down while successfully protecting the torpedo bombers from Japanese fighters. The final tally: *Shokaku* was hit by three bombs, and unable to operate aircraft but still able to make 30Kts on her own. The cost to the U.S. was two SBD Dauntless and three Wildcats. An additional Wildcat and two SBD's (including the *Lexington* air group commander, Commander William Ault) disappeared returning to the carrier.

Meanwhile, fully expecting to be attacked, TF-17 launched a heavy CAP of 8 Wildcats and 18 SBDs (in an anti-torpedo plane role). Upon radar detection of the inbound Japanese strike, nine more Wildcats and five more SBDs were launched. It did little good, despite radar fighter direction. The Japanese torpedo bombers escaped in the clouds, and the dive bombers were not intercepted until they began commencing dives. Lieutenant (j.g.) William E. Hall, flying a *Lexington* SBD Dauntless dive bomber in an anti-torpedo bomber role, was credited with downing three Japanese aircraft, despite being severely wounded, for which he was awarded a Medal of Honor. However, with only three of 18 Kate torpedo bombers shot down, nine attacked the *Lexington* and four went after the *Yorktown* (this is where the loss of torpedo bombers the previous night would prove crucial). The four that attacked the *Yorktown* all missed and two were shot down. The nine other torpedo bombers executed a doctrinal anvil attack on *Lexington*, which avoided the first five torpedoes but could not avoid the four coming from a different direction; two went under without exploding and two hit. The first torpedo hit was fatal, although it would take several hours before that would become apparent. Among other damage, the port aviation fuel tank was cracked, and volatile gasoline vapors began to seep throughout the ship.

Nineteen Val dive bombers then attacked *Lexington* and 14 attacked *Yorktown*. Zeros successfully defended the dive bombers, so all 33

dropped on target. Perhaps unfairly justifying CARDIV 5's "B-team" status, just three direct hits were scored, along with numerous near misses (although that matched the U.S. total on *Shokaku*—at Midway, *Hiryu*'s A-team scored three serious hits and two damaging near misses on *Yorktown* with only seven dive bombers.) Two bombs hit *Lexington*, which caused minimal damage. One bomb hit *Yorktown*, which penetrated deep in the ship, causing significant damage, but *Yorktown* was quickly able to resume flight operations (this damage was repaired in time for *Yorktown* to participate in the battle at Midway; had she been hit by a torpedo, that would not have been the case). Lieutenant Milton Ernest Rickets was officer-in-charge of the Engineer Repair Party, which was decimated by the bomb. Despite being mortally wounded, Rickets immediately manhandled a hose and prevented the spread of the fire before "dropping dead beside the hose," for which he was posthumously awarded a Medal of Honor, and directly contributed to *Yorktown*'s presence at the subsequent Battle of Midway.

The Japanese lost five dive bombers and eight torpedo planes in the attack on the *Lexington* and *Yorktown*; however, damage was extensive and seven more were forced to ditch on the way back to the *Zuikaku*, and another 12 had to be pushed over the side due to damage and as *Zuikaku* struggled to take aboard the remains of both *Zuikaku* and *Shokaku*'s air groups. *Yorktown* fighters, returning from the strike on *Shokaku*, shot down two more Japanese aircraft returning from the strike on the U.S. carriers; one was the *Shokaku*'s air group commander, and the other was the pilot who had first located the U.S. carriers and dodged U.S. fighters for over two hours, providing a steady stream of accurate positional reporting in probably the best scouting mission by either side in the war. The U.S. lost three Wildcats and five SBD's defending the carriers.

At first it appeared that the U.S. carriers had gotten off surprisingly light from the Japanese air

attack. However, at 1247, the gasoline vapors seeping through *Lexington* were ignited when they reached motor generators, resulting in a massive explosion. The fires quickly got out of control as numerous lesser and two more major explosions devastated the ship throughout the afternoon. At 1707 Captain Frederick "Ted" Sherman gave the order to abandon ship, and in what was arguably the most orderly and successful abandon ship in the history of the U.S. Navy, all personnel who were not killed in the air attack or the subsequent explosions were safely rescued.

At the end of the day, *Yorktown* had only 12 SBD dive bombers and eight TBD torpedo bombers still operational, and only seven torpedoes left. The situation was even worse on the *Zuikaku*; of 46 aircraft recovered on board, only nine were operational. Since 6 May, the Japanese had lost about 69 aircraft from *Shokaku* and *Zuikaku*, along with *Shoho*'s entire complement of 18 aircraft. Over 1,000 Japanese had been killed, most on *Shoho*. U.S. losses included 81 aircraft (including 35 that went down with the *Lexington*) and 543 dead aboard *Lexington*, *Neosho* and *Sims*. Both Fletcher and Takagi decided that the best course of action was to clear out as fast as possible. Takagi was blasted by Yamamoto for his decision and returned to the battle area (by then most of his embarked aircraft were repaired and operational) in a vain search. Nimitz had not second-guessed Fletcher, and TF17 was long gone. The Japanese attempt to invade Port Moresby was "postponed," never to be attempted again, at least by sea.

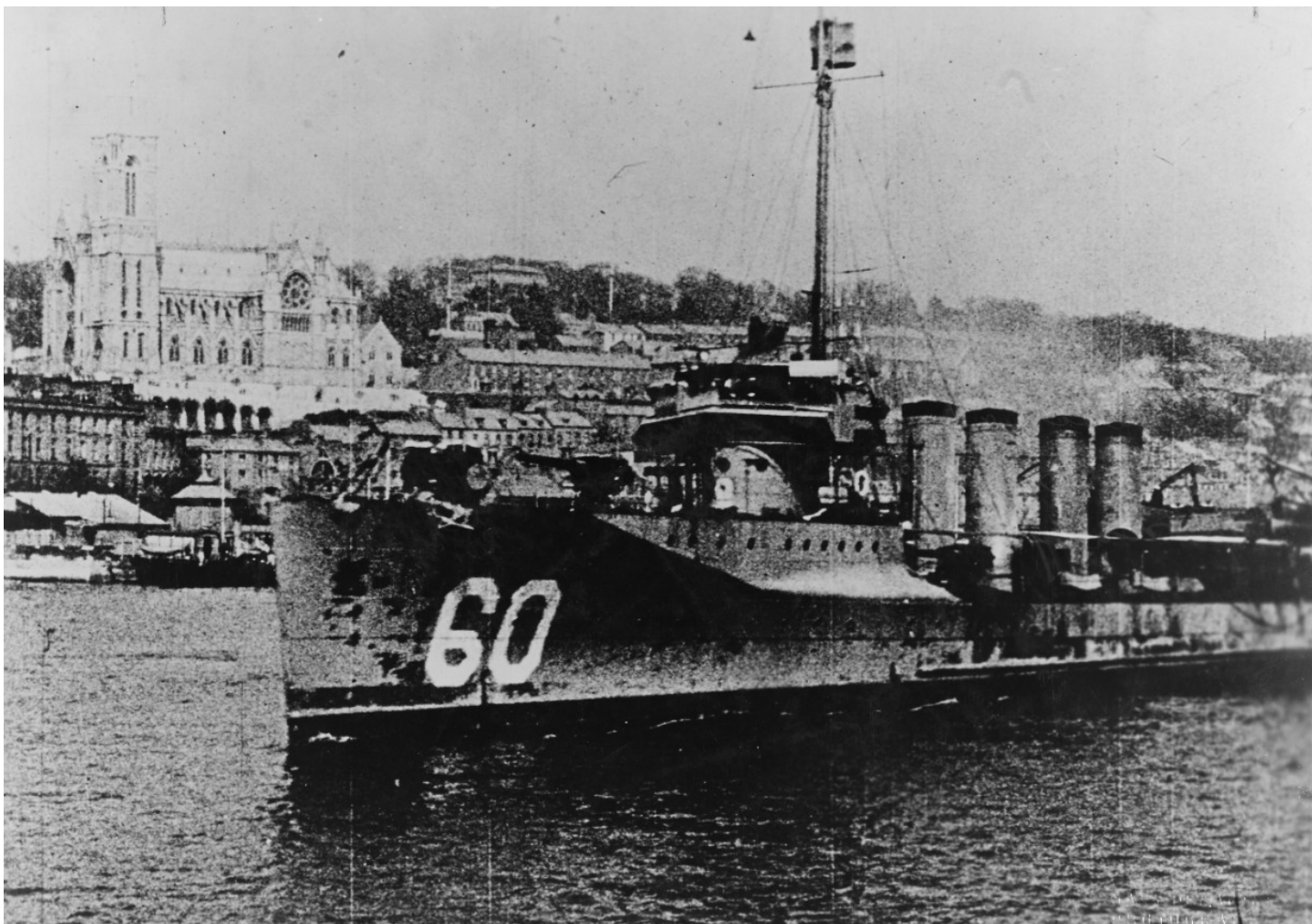
(There are numerous books on the Coral Sea, but one relatively recent one (2009), *The Coral Sea 1942* by Mark Stille, has exceptionally good graphics depicting each carrier attack, along with all the best photos of the battle, in a very concise but thorough text.)



USS Lexington (CV-2) at the Battle of the Coral Sea on 8 May 1942 in a photo taken from a Japanese aircraft. The carrier has been hit by two torpedoes (the first proved fatal) and two bombs, and is bracketed by numerous other near misses (NH 95579)

H-005-4: *Lexington* **Under Attack**

*H-Gram 005, [Attachment 4](#)
Samuel J. Cox, Director NHHC
April 2017*



USS Wadsworth (Destroyer No. 60) coming into Queenstown, Ireland, 4 May 1917 (NH 331).

H-005-5: 100th Anniversary of World War I—Initial U.S. Navy Combat Operations

*H-Gram 005, [Attachment 5](#)
Samuel J. Cox, Director NHHC
21 April 2017*

After the U.S. declaration of war on 7 April 1917, the U.S. Navy joined in the fight against German U-boats, although the first thing the Navy was ordered to do, on 7 April, was to commandeer and take control of all radio and wireless stations in the United States, which were pressed into wartime service (and censored).

On 19 April 1917, a Navy gun crew on the armed steamship *Mongolia* (armed with a 6" gun stripped off a U.S. navy warship) engaged and drove off a U-boat in the English Channel, the first shots fired by the U.S. Navy against the Germans in the Atlantic. The gun (No. 263, nicknamed "Teddy") still exists in a park in Portsmouth, Virginia. The subject of arming merchant ships prior to the outbreak of war caused major debate. President Wilson's request to arm merchant ships beginning in February 1917 was turned down by Congress. Wilson then ignored Congress, and U.S. merchant ships began to be armed with guns and gun crews "taxed" from other U.S. Navy warships even before the declaration of war.

On 28 April, the German submarine U-21 torpedoed and sank the tanker *Vacuum* off

Scotland; among the 24 crew killed was Lieutenant Clarence C. Thomas, the first U.S. naval officer killed in action in WWI.

On 8 May, the destroyers USS *Wadsworth* (DD-60) and USS *McDougal* (DD-54) commenced the first U.S. Navy combat patrol in European waters, following their arrival in Queenstown, Ireland, on 4 May.

On 21 May, the destroyer USS *Ericsson* (DD-56) engaged a surfaced U-boat that was firing on two sailing vessels, and fired a torpedo at the U-boat, which missed. This was the first confirmed engagement of a U-boat, and the first launch of a torpedo, by a U.S. Navy destroyer in WWI. The U-boat then submerged and used torpedoes to sink the two sailing vessels, and *Ericsson* rescued survivors.

On 24 May, the first convoy to Europe from the United States departed Hampton Roads, Virginia, escorted by the British Royal Navy.

On 26 May, the new oiler USS *Maumee* (AO-2) refueled six destroyers in the mid-Atlantic on their way to Europe, the first underway refueling in U.S. Navy (or any navy) history. As related in a previous H-gram, the *Maumee's* XO, Lieutenant Commander Chester Nimitz, and the Atlantic Fleet Fleet Engineer, Commander Ernest J. King, had devised the method only days prior.

Rear Admiral Sims' recommendation on 14 April that the U.S. Navy immediately send as many destroyers as possible to assist the British in the Western Approaches (in hindsight seemingly so sensible) actually resulted in heated debate and intense opposition within the Navy Department. Indecision about policy was the main reason for the delay of Lieutenant Commander Taussig's destroyer division's departure from Boston until 24 Apr 1917 (although Taussig put all that time to good use improving the materiel readiness of his ships, several of which broke down during the

transit anyway, but were able to complete the transit, albeit by reducing the speed of the whole force). Arguments against Sims' recommendations included that sending destroyers would leave the U.S. East Coast defenseless against German U-boats, and perhaps more importantly, leave the Battle Fleet defenseless against the same threat (the U.S. was short of destroyers too, for much the same reason as the British—focus on building battleships at the expense of a balanced fleet). Sending the destroyers was also viewed as a major violation of Mahan (dead only three years) doctrine to not split up the Fleet. There was heated opposition to having U.S. naval forces operate under British command. (That problem was solved by elevating Sims from a liaison to the Royal Navy to Commander of U.S. Naval Forces Operating in Europe—and giving him three stars—which put the destroyers under his command... even though they still actually operated under British tactical control.) There was also an affront to U.S. national pride, in that the British did not ask for the U.S. Battle Fleet. (When the United States did send battleships in December 1917, we sent our newest coal-fired ships, not our newer oil-fired ships, because the British had plenty of coal but were seriously short of oil—and they really didn't need more battleships anyway.) The fact that the Atlantic Fleet Commander, Admiral Mayo, got almost completely cut out of all decisions regarding deployment of ships, and making Sims a "commander" of U.S. naval forces in Europe, was not helpful either. Lastly, there was still considerable historic animosity within the U.S. Navy toward the Royal Navy; Sims himself had been relieved of command of the battleship USS *Minnesota* (BB-22) in 1910, on order of President Taft, for making a public pro-British speech in London (the fact that Sims was in command of a battleship while only an O-5, over the objection of Navy leaders, due to political connections with Theodore Roosevelt, was also a factor). Sims' "Guildhall speech" that got him fired proved to be remarkably prescient and was

resurrected and quoted widely in the British press after his return to the UK in April 1917 (in a nutshell, if you Brits ever get into a real jam, the U.S. will be there for you, but more flowery).