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Cincpac File No.

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01849

UNITED STATES PACIFIC FLEET
FLAGSHIP OF THE COMMANDER-IN-CHIEF

CLASSIFICATION REDUCED TO

CONFIDENTIAL

BY AUTHORITY OF ORIGINATOR
DATE: 13 DEC 45 (SER. 034372)

From:

To:

Commander-in-Chief, United States Pacific Fleet.

Commander-in-Chief, United States Fleet.

Subject:

Battle of Midway.

Reference:

(a) CincPac A16/(90) Ser. 01693 of 6/15/42.

Enclosures:

- ✓ (A) Track of the Battle of Midway - Composite of All Reports.
- ✓ (B) Copy of Cincpac A8/(37)/JAP/(26.2)(no date) and Cincpac A8/(37)JAP/(26) Ser. 01753 dated 21 June 1942.
- ✓ (C) ✓ ComCru, Task Force SEVENTEEN A16-3/(013) dated 12 June 1942.
- ✓ (D) Copy of Comtaskforce SEVENTEEN A16-3/.9(0029M) dated June 26, 1942.
- (E) Copy of NAS Midway NA-38/A16-3 Serial 075 dated 18 June 1942 with ComHawSeaFron. 1st End. thereon.
- (F) Summary of Army Aircraft Attacks at Midway, ComGen.Haw.(8672).

1. In numerous and widespread engagements lasting from the 3rd to 6th of June, with carrier based planes as the spearhead of the attack, combined forces of the Navy, Marine Corps and Army in the Hawaiian Area defeated a large part of the Japanese fleet and frustrated the enemy's powerful move against Midway that was undoubtedly the keystone of larger plans. All participating personnel, without exception, displayed unhesitating devotion to duty, loyalty and courage. This superb spirit in all three services made possible the application of the destructive power that routed the enemy and inflicted these losses:

- (a) 4 CV sunk - AKAGI, KAGA, SORYU, HIRYU - with the loss of all their planes and many of their personnel. Estimated 275 planes, 2400 men.
- (b) 2 probably 3 BB damaged, 1 severely.
- (c) 2 CA sunk - MOGAMI, LIKUMA - 3 or more others damaged, some severely.
- (d) 1 CL damaged.
- (e) 3 DD sunk, 1 other possibly sunk.
- (f) 4 AP and AK hit, 1 or more possibly sunk.
- (g) Estimated total number of personnel lost 4800.

2. These results were achieved at the cost of the YORKTOWN and HAMMANN sunk and about 150 planes lost in action or damaged beyond repair. Our total personnel losses were about ninety-two(92) officers and two hundred and fifteen (215) men.

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PRELIMINARY OPERATIONS

3. After the Battle of the Coral Sea it became evident that Japan was concentrating her fleet for movements of major importance against the Aleutians and Midway. Later indications were that the Midway expedition was a powerful fleet composed of a Striking Force, Support Force, and Occupation Force. An estimate of the composition of this fleet, since largely verified by reports of the battle, was:

<u>STRIKING FORCE</u>	<u>SUPPORT FORCE</u>	<u>OCCUPATION FORCE</u>
<u>CinC 1st Air Fleet (F)</u>	<u>Crudiv 7</u>	<u>1 TAKAO Class CA</u>
<u>Cardiv 1</u>	<u>MOGAMI (F)</u>	<u>1-2 MYOKO Class CA(?)</u>
<u>NERGI (F)</u>	<u>MIKUMA</u>	<u>Airon 7</u>
<u>KAGA</u>	<u>SUZUYA</u>	<u>CHITOSE</u>
<u>Cardiv 2</u>	<u>KUMANO</u>	<u>CHIYODA</u>
<u>SORYU (F)</u>		
<u>HIRYU</u>	<u>Cardiv ---</u>	<u>AIRON 11(?)</u>
<u>Desron 10</u>	<u>1 CV or XCV</u>	<u>2-4 KAMIGAWA Class XAV</u>
<u>NAGARA (F)</u>		
<u>12 DD</u>	<u>Batdiv 3 2nd Sect.</u>	<u>Transdivs ?</u>
<u>Bataiv 3</u>	<u>HIYEI</u>	<u>8-12 AP</u>
<u>HARUNA (F)</u>	<u>KONGO</u>	
<u>KIRISHIMA</u>	<u>CRUDIV 4 Part</u>	<u>Transdivs</u>
<u>Crudiv 8</u>	<u>1 ATAGO Class CA</u>	<u>4-6 AK</u>
<u>TONE (F)</u>		
<u>CHIKUMA</u>	<u>Desron 2 Part</u>	<u>Desron 4</u>
	<u>JINTSU (F)</u>	<u>12 DDs</u>
	<u>10 DD</u>	

In addition, the plan was believed to provide for approximately 16 SS to be on reconnaissance and scouting mission in the Mid-Pacific - Hawaiian Islands area.

4. The status of the important Pacific Fleet forces at the time the afore-mentioned threats developed was as follows:

- (a) Task Force 17 had fought the battle of the Coral Sea from 4 to 8 May and was still in the South Pacific. The LEXINGTON had been sunk and the YORKTOWN damaged to an

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extent which might require a considerable period of repair -- possibly even a trip to a West Coast Navy Yard. The remainders of the air groups of these two carriers were on the Yorktown, urgently requiring reorganization and rest. This force had been continuously at sea since February 16.

(b) Task Force 16 (ENTERPRISE and HORNET with supporting cruisers and destroyers) was in the South Pacific, having arrived just too late for the Coral Sea action. It had been sighted recently, however, by an enemy reconnaissance plane and thus probably prevented an enemy occupation of Ocean and Nauru Islands.

(c) Task Force 1 (containing battleships and a small destroyer screen) was on the West Coast.

5. It was evident, if estimates of the enemy's strength and intentions were true, that the situation was most serious. Midway itself could support an air force only about the size of a carrier group; our carriers were far away; and perhaps only two would be fit to fight. Task Force 17 had already been recalled for repair and replenishment. Task Force 16 was immediately ordered north. At the same time a new force, Eight, was formed out of all cruisers within reach (five) and all destroyers available, (four), and sent to Alaskan waters to assist the Sea Frontier forces which were being assembled in that Area.

6. Midway was meanwhile given all the strengthening that it could take. Long range Navy and Army aircraft, though necessarily difficult to protect on the ground and water, were moved in. It was considered most important that the enemy be discovered at a distance and promptly attacked. To provide essential close in air striking power, the Marine Air Group was increased to approximately 30 fighters and 30 dive bombers supported by six Navy new IFF torpedo planes and four

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Army B-26's fitted for dropping torpedoes. Many of these planes arrived just before the engagement. Despite a heavy inflow of planes from the mainland to Oahu and from there to Midway, the available numbers were never large enough to give a comfortable margin for losses. So critical, in fact, was this condition that after the first morning attacks at and off Midway the dive bombers, fighters and torpedo planes stationed there were nearly wiped out. Replacements of these types on Oahu were scanty and could not be got to Midway for the remainder of the battle.

7. Midway's ground defenses were strengthened by the emplacement of new batteries, completion of underwater obstacles, laying of mines, etc. Additional Marine forces were moved in, including a part of the 2nd Raider Battalion with special equipment for meeting a mechanized landing assault. Other reenforcement included motor torpedo boats and YP's.

8. Thirteen submarines were stationed on the 200 and 150 mile circles covering the western and northern approaches to Midway. A few submarines were placed in support on the 800 mile circle northwest of Oahu, and the last ones to become available on the 100 mile circle from that place. All submarines which could reach the Oahu-Midway area were employed and the consequent cessation of their offensive patrols accepted.

9. Full consideration was given to employment of Task Force ONE in the defense of Midway. It was not moved out because of the undesirability of diverting to its screen any units which could add to our long range striking power against the enemy carriers. Events proved that every air unit which was employed could have ill been spared from the purpose for which it was used, even though the results were far beyond the expectations of most.

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As our air forces increase in strength relative to the enemy, and surface screening forces become available to permit a balanced force, the application of battleships' striking power will become practicable.

10. The Commander-in-Chief, United States Fleet estimated that the enemy's plans included an attempt to trap a large part of our Fleet. He directed that strong attrition tactics, only, be employed and that our carriers and cruisers not be unduly risked. The whole situation was a most difficult one requiring the most delicate timing on the part of our carriers -- if they could reach supporting stations in time. It so happened that they did. Task Force 16 arrived at Pearl Harbor on 26 May and departed on the 28th under command of Rear Admiral R. A. Spruance, U.S.N. as Task Force Commander, with Rear Admiral T.C. Kinkaid in Command of Cruiser Group, and Captain A.R. Early in Command of the Destroyers. Task Force 17 reached here on the 27th and sailed on the 30th, under Command of Rear Admiral F. J. Fletcher as Task Force Commander with Rear Admiral W. W. Smith in Command of the Cruiser Group, and Captain G. C. Hoover in command of the Destroyers. It was found, most fortunately, that the YORKTOWN and her aircraft could be placed in reasonable fighting condition in three days. Excellent work by the Navy Yard, the Service Force and all supporting services at Pearl Harbor made possible these prompt sailings.

11. Task Forces 16 and 17 joined at assigned rendezvous northeast of Midway on 2 June, having previously refueled at Sea. In compliance with my directive, Rear Admiral Fletcher, Commander Task Force 17, then moved the combined forces to an area of operations north of Midway.

12. Enclosures show composition of our own forces, which will not be relisted here. Broad tactical direction of all the forces in the Midway Area was retained by the Commander-in-Chief, Pacific Fleet.

13. The Battle - 3 June

The enemy Occupation Force and perhaps part of the Support Force (see paragraph ①) was picked up in several contacts west of Midway on the 3rd, as shown on plot of battle, enclosure (A). The first contact was at about 0900 when a large number of ships

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(later reported as 11) were sighted by a Navy patrol plane, bearing 261° distant 700 miles from Midway, reported course 090, speed 10. (All times in this report are Zone plus 12. In studying Task Force 16 and 17 reports it must be kept in mind that times given by them are Zone plus 10.) There were several smaller groups of ships, indicating that the escort group for the occupation force and the various ships of this force were converging on a rendezvous for the final advance on Midway.

14. About 1623, striking unit of 9 B-17's with four 600# demolition bombs each, contacted and attacked the large group. They reported the force now consisted of 5 BB or CA and about 40 other ships - DD, AP, AK, etc. The course made good since the morning contact was about 081°, the bearing of Midway. Distance was then about 570 miles from Midway. Two ships, a CA or BB and an AP or AK were hit and injured severely so that they fell out of column and sent up "huge clouds of black smoke which mushroomed above them". One other CA and one other AP or AK were possibly damaged.

15. This was the only attack of the day, though at its close 4 PBY's armed with torpedoes were enroute to attack. Estimated results are:

- 1 CA - damaged
- 1 CA - slightly damaged
- 1 AP or AK severely damaged
- 1 AP or AK slightly damaged.

4 June

16. Attacks on the Japanese fleet began early this day and continued in force until nearly noon, with other attacks before sunset. Between 0130 and 0200 the 4 PBY's found and 3 attacked probably the same force the B-17's had hit; 10 or more big ships in 2 columns with 6 DD were observed. There were indications of

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another large group nearby. Bearing was still about 261° from Midway, distance reported about 500 miles, though part of the enemy force was closer. Two of the planes were able to press home attacks unobserved and each hit an AP or AK. This night attack by Catalinas was a daring and historical feat. Estimated results are 1 AK or AP sunk, 1 AK or AP damaged severely.

17. The Japanese Main Striking Force assumed to have 4 carriers was not sighted on the third. These ships were apparently riding a weather front bearing down on Midway from the northwest. One carrier had been reported among the ships west of Midway, but this contact was not verified. It is possible that the Japanese had five carriers off Midway and that the fifth one moved from the west to the northwest for the engagements of the fourth of June, but there is no clear evidence yet to bear this out.

18. Before dawn on 4 June, PBY's took off from Midway ~~continuing their invaluable scouting that contributed so greatly~~ to the success of the action. 16 B-17's were despatched by Commanding Officer, Midway, to attack the enemy transport force to the westward. At 0545 the most important contact of the battle was made. A PBY reported many planes heading for Midway 150 miles distant on bearing 320; 7 minutes later another PBY sighted 2 of the enemy carriers and many other ships on the same bearing, distant 180 miles, coming in at 25 knots on course 135.

19. All serviceable planes at Midway were in the air before 0600 (except for 3 SB2U spares); 6 Navy TBF and 4 Army B-26 armed with torpedoes, and 27 Marine dive bombers were despatched to strike the enemy carriers. The B-17's proceeding westward were also diverted to the carriers. Midway radar picked up the enemy planes and, at 0615, 14 of the 27 fighter planes available made contact 30 miles distant with 60 to 80 dive bombers (possibly a few of these were twin engined horizontal bombers) and about 50 fighters. Severe fighting continued as long as our fighters were in the air, which was not long for most of them against

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these odds, accentuated by the poor maneuverability of these planes. Of the 27 fighters available, 15 were lost and 7 severely damaged. Statements from 9 of the 11 surviving pilots show that they shot down a total of 3 Japanese zero fighters and 8 Aichi Type 99 dive bombers. Survivors believe the total number destroyed by all the fighter planes was probably 8 zero fighters and 25 dive bombers.

20. The first bomb hit Midway at about 0633 from horizontal bombers. Dive bombing and strafing continued for about 17 minutes. Considerable damage was done to nearly all structures above ground, the most serious at the time being the destruction of the power plant on Eastern Island. Little damage was done to the runways, the Japanese apparently leaving these intact for their own anticipated use. The antiaircraft batteries shot well, downing 10 planes and, with the fighters, damaging many more, so that our returning airplanes reported "large numbers of enemy planes down on the water and falling out of formation."

21. The B-26's found their targets, 2 CV, about 0710 and made a most gallant attack. This is likewise another historical event, and, it is hoped, one soon to be repeated under better conditions - our Army's first attack with torpedo planes. Heavy fighter concentrations were encountered; 2 of the 4 planes did not return; one was shot down before launching his torpedo, and possibly the other, though it is said to have attacked and in pulling out touched the flight deck of the target before crashing into the sea. Both of the 2 planes that did return were so badly shot up by the terrific fighter and AA fire encountered that they were unserviceable. Survivors had no time to observe results, but approaches were such that it is believed probably one torpedo hit. *(No sources; no hits)*

22. The TBF's made a similarly gallant attack almost simultaneously with the B-26's and against an equally determined and overwhelming number of fighters. At least 2 of them were shot down before they could launch torpedoes. Only one badly shot up plane returned. The pilot could not tell what happened to the remainder of his unit or how the attack fared. A B-17, on reconnaissance, reports seeing one of the planes make a hit.

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Although the TBF is a well armed plane, it is obvious that it cannot go through fighter opposition without fighter protection.

23. At 0755 a group of 16 Marine dive bombers, under Major L. K. Henderson, USMC made a gallant glide bombing attack on one of the carriers in the Striking Force. The planes had been received too recently for training in dive bombing, so the Commander chose this less effective and more hazardous method of attack because it permitted lower pull outs. His and 7 other planes were shot down by overwhelming fighter opposition. The 8 planes that did return were badly shot up, one having 210 holes. The target, probably, the SORYU, was hit 3 times and left afire.

24. Soon afterward, at about 0820, the 11 SB2U Marine bombers from Midway made a glide bombing attack on a battleship, likewise against heavy fighter attack. Two hits are reported. When last seen the battleship was smoking and listed.

25. The B-17 unit of 16 planes, under the Commanding Officer of the 431st Bombardment Squadron, Lt.Col. W.C. Sweeney, U.S.A., who led each flight he made in an outstanding manner, was directed to change its objective from the transport force to the carriers. Promptly and with skillful navigation the planes proceeded, picked up the enemy fleet on bearing 320° about 145 miles from Midway, and at 0814 began attacking from 20,000 feet, each plane carrying 8 500-pound demolition bombs. Result: Total of 3 hits on carriers, possibly 2 carriers hit with heavy smoke from one; carriers still maneuvering and operating normally. Since only one carrier was reported smoking, this was probably the same one, SORYU, the Marine dive bombers had set afire a few minutes earlier with 3 hits.

26. The Midway Forces had struck with full strength, but the Japanese were not as yet checked. About 10 ships had been damaged, of which 1 or 2 AP or AK may have sunk. But this was hardly an impression on the great force of about 80 ships converging on Midway. Most of Midway's fighters, torpedo planes and dive-bombers -- the only types capable of making a high percentage of

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hits on ships -- were gone, and 3 of the Japanese carriers were still either undamaged or insufficiently so to hamper operations.

27. This was the situation when our carrier attack began. Task Force 16 and 17, ready about 200 miles to the north-east of the Japanese carriers, had intercepted the first contact reports by the Midway scouts. At about 0700 launching commenced of the following attack groups, YORKTOWN's being temporarily held in reserve until her scouts returned (majority of fighters retained for combat patrol):

HORNET - 35 VSB, 15 VTB, 10 VF
ENTERPRISE - 35 VSB, 14 VTB, 10 VF

(Bombers carrying 1-1000 lb, or 1-500 lb, or 1-500 and 2-100 lb bombs)

These two groups proceeded independently to attack.

28. Dive bombers proceeded at a high altitude with the torpedo planes at about 1500 feet below the cloud base. Fighters failed to accompany the torpedo planes. HORNET's accompanied dive bombers expecting to provide protection for bombers and torpedo planes over enemy fleet. Torpedo planes proceeded separately and contact was lost with them. ENTERPRISE's fighters likewise operated at a high altitude expecting fighters there and were not able to reach torpedo planes in time to assist. Lack of fighter support, visibility conditions, distance of attack, delay in locating the Japanese force, and Japanese tactics of concentrating fighters on torpedo planes all combined to prevent coordination of bombing and torpedo attacks, with resultant heavy loss of torpedo planes.

29. Sometime after 0830, when the last attack that morning by Midway planes was completed, the Japanese striking force commenced retirement to the north or northwest. Consequently it was not found in the estimated position by our carrier attack groups. HORNET Group Commander made the decision to turn south, to search along the enemy's reported track, and failed to make contact. All

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10 of the fighters were forced down for lack of gas and lost at sea, though 8 of the pilots have been recovered. All but 2 of the dive bombers eventually got back to the HORNET (11 via Midway) without attacking.

30. The ENTERPRISE Group Commander, proceeding separately decided to turn north to search, estimating that enemy must have reversed course. This was one of the most important decisions of the battle and one that had decisive results. Soon after 1000 he made contact and prepared to attack.

31. Meanwhile the HORNET's torpedo squadron led by Lt. Comdr. J. C. Waldron had found the enemy and without hesitation at about 0920 conducted a most gallant and heroic attack entirely unsupported. They were met by overwhelming fighter opposition about 8 miles from the 3 carriers they attacked, and followed all the way in, being shot down one by one. The remnant drove in their attack to close range. Voice intercepts indicate that they shot down some Japanese fighters and made some hits.

32. Not a plane survived this magnificent devotion to purpose. One pilot, after attacking and probably hitting the KAGA at close range, with his gunner already killed, crashed near the AKAGI, ducked under his seat cushion to prevent being machine gunned, and from this reserved position observed the fierce attacks that followed.

33. YORKTOWN and ENTERPRISE torpedo squadrons led respectively by Lt. Comdr. L. E. Massey, U.S.N. and Lt. Comdr. E.E. Lindsey, U.S.N. attacked later with equal courage and determination, and similar crushing losses. Both are believed to have made hits, but both were almost completely destroyed, ENTERPRISE losing 10 out of 14 planes and YORKTOWN 10 out of 12. Despite the many difficulties, exact coordination with dive bombers was almost achieved, the torpedo planes launching their attack only a few minutes before the bombers. Even had they attacked later, in perfect coordination, without adequate fighter protection their losses would have been probably

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as great. Recognizing the torpedo plane for the menace it is, the Japanese concentrated most of their fighters and antiaircraft fire on it. The result was that the VT squadrons were a sacrifice that enabled the dive bombers to make their attack almost unopposed, with disastrous results for the enemy.

34. At 0830 YORKTOWN commenced launching the following attack group, dive bombers being armed with 1000 lb. bombs:

17 VSB

12 VT

6 VF

These proceeded with VT's at 1500 feet, 2 VF at 2500 feet, 4 VF at 5-6,000 feet and bombers at 16,000 feet. Contact was made at about the same time as by the ENTERPRISE planes and attack delivered almost simultaneously.

35. When the HORNET torpedo squadron attacked, there were 4 carriers dispersed in a wide roughly circular formation. AKAGI, KAGA and SORYU were in the same general vicinity, probably having just landed planes. SORYU was smoking, showing signs of heavy damage, as was also a ship some distance away that resembled a battleship. The surviving HORNET VT pilot, Ensign Gay, USNR, had been in the water only a few minutes when the ENTERPRISE and YORKTOWN dive bombers struck hard and most effectively. Both KAGA and AKAGI, between which he lay, were hit repeatedly, the planes on deck that they sought to launch being ignited until the two ships burned fiercely from stem to stern. SORYU was also hit again and continued to burn.

36. The dive bombing attacks by both ENTERPRISE and YORKTOWN squadrons began at about the same time, between 1020 and 1025. Many hits were made on each carrier. Some pilots considering them destroyed attacked other ships. The following damage was inflicted:

3 carriers - AKAGI, KAGA, SORYU set afire and ultimately destroyed.
2 Battleships - 1 1,000 lb. hit each, one a mass of flames.
1 CL or DD - 1 1,000 lb. hit, believed DD sunk.

37. All submarines were ordered to close on the enemy Striking Force but the only submarine attack of the day was by

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NAUTILUS which at 0710 sighted smoke from torpedo plane hits and antiaircraft fire on bearing 331° True. After closing, she sighted a formation including a carrier and battleship which she attacked unsuccessfully at long range, and was herself depth charged. About 1000 the ships had disappeared. At 1029 4 large columns of grey smoke (probably from dive bombing attack) showed over the horizon; NAUTILUS closed the nearest of the 4 and at 1359 fired the first of 3 torpedoes into the smoking carrier SORYU. The GROUPE in a similar situation was unable to get in to attack because of the enemy's intensive anti-submarine measures.

38. At the time SORYU was on even keel, hull apparently undamaged, fires under control, towing arrangements in process. The three hits caused fires to break out again and personnel to abandon ship. Cruisers escorting the carrier depth-charged NAUTILUS which went to deep submergence. When the periscope was raised at 1610, the SORYU was observed burning fiercely and escorting vessels had departed. At 1840 heavy underwater explosions occurred accompanied by a billowing cloud of black smoke. At 1941 NAUTILUS surfaced. No ship, smoke, or flame was in sight.

39. At 0815 Task Force SIXTEEN radar had picked up a twin float seaplane, 36 miles to the south, which probably reported our formation's position. During YORKTOWN and ENTERPRISE Group dive bombing attacks on the Japanese carriers, the KAGA and AKAGI tried to launch planes. They were probably at the time preparing to attack our carriers. The carrier HIRYU, according to survivors picked up on 18 June (4 officers and 31 men), at this time drew off to the northward undamaged. Soon afterwards a Japanese message was intercepted "inform us position enemy carriers".

40. Lacking complete information on the number and location of enemy carriers, at 1150 YORKTOWN launched scouts to search sector 280-030 to 200 miles. Immediately thereafter at 1152 YORKTOWN's radar picked up many planes approaching from Westward, distant 32 miles. These were later determined to be 18 dive bombers and 18 fighters. As one fire precaution YORKTOWN drained the gas system and introduced CO₂.

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41. The Combat Air Patrol of 12 fighters located the enemy planes at about 9,000 feet altitude and attacked, shooting down 11 of the bombers. Out of the melee from time to time seven planes broke out and dived through heavy antiaircraft fire. Of the first 3, one was caught by a 5" burst and disintegrated; the second dropped its bomb, which was a miss and plunged into the sea; the third was cut into fragments by automatic gun fire, but the bomb tumbling down exploded on the flight deck aft of the island and wiped out two 1.1 mount crews. At 1214 a hit in the uptake forced the YORKTOWN to stop, largely because boiler gases were drawn into firerooms making them uninhabitable. A third hit landed in the forward elevator well starting fires adjacent to the forward tanks of gasoline without igniting it.

42. At 1402 with all fires extinguished and temporary repairs to the uptake completed, YORKTOWN was able to go ahead. Her position then was Latitude 33-51 N, Longitude 176 W, course 090°. Speed was gradually increased to 19 knots by the time of the next attack. PENSACOLA, VINCENNES, BALCH, and BENHAM had meanwhile joined from Task Force SIXTEEN.

43. Approaching aircraft were again picked up on various bearings, the largest group being on 340°, distant 25 miles at 1433. The total attacking force was 12 to 15 torpedo planes and 10 to 18 fighters. The fighter combat patrol shot down 4 to 7 of the planes. About eight of the torpedo planes came on into the fire of YORKTOWN's screen which was so heavy that observers thought it incredible that any got through. Three were shot down. Fighters just launched by YORKTOWN went into the heavy antiaircraft fire to attack the remaining five, which succeeded nevertheless in launching torpedoes. The last two, released at about 800 yards, at 1445 hit YORKTOWN amidships on the port side. All the torpedo planes were shot down, three by fighter and ship fire before or as they passed the YORKTOWN, two as they attempted to pass through the heavy fire of the screen.

44. Within ten minutes after being hit, YORKTOWN was listed 20 to 25° to port. In another ten minutes personnel began abandoning ship. It seemed that the YORKTOWN might capsize, and that she cer-

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tainly would should she be hit again. Another attack seemed imminent throughout the afternoon. Radar contacts of unidentified planes were frequent, three of which at different times turned out to be Japanese seaplanes. The ship, however, continued to float through the night, list remaining about constant.

45. Both attacks on YORKTOWN were made by the HIRYU planes. At 1430, just as the HIRYU torpedo planes were coming in radar range of YORKTOWN, one of the YORKTOWN's scouts contacted the HIRYU with 2 BB, 3 CA and 4 DD in 31°-15' N, 179°-05' W, course north, speed 20. Task Force 16 launched an attack group of 16 dive bombers from HORNET and 24 from ENTERPRISE (14 of these being YORKTOWN planes) which beginning at 1705 for half an hour dived on the Japanese formation. Only 6-12 fighters were encountered, good evidence that Japanese plane losses had been very heavy in the day's fighting. Results of attack were:

CV HIRYU	Hit many times and aflame from bow to stern.
1 BB	2 500 or 1000 lb. bomb hits.
1 BB	2 1000 and 1 500 lb. bomb hits.
1 CA	2 500 lb. hits.

With the destruction of the HIRYU our forces had won mastery of the air, although at the time it was not clear whether all carriers had been accounted for and whether or not more than four carriers were in the area.

46. Between 1810 and 1830 twelve (12) B-17's in several flights struck the last blow of 4 June. Of these, 6 planes, attacking directly out of Oahu, in order to conserve gas did not climb to the usual attack level but made runs at 3600 feet. Each group was attacked by zero fighters. These may have come from the HIRYU. Some of the flights report a large CV burning and 1 or 2 small CV; but the unit most experienced in operations over the sea reported only one carrier which was burning, and a burning BB or CA accompanied by a number of other ships. Three 500 lb. bomb hits are reported on the damaged CV, one on a BB (probably CA), one on a CA (smoking badly), and one on a DD (probably sunk). A patrol plane, in this vicinity until about 1800, from a distance reported that a ship sank when hit by a salvo of bombs.

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Subject: Battle of Midway (Cont'd) -----

47. Summary of losses inflicted on the enemy on 4 June.

MIDWAY FORCES

Time	Attacking Unit	Type Attack	Ship Sunk	Ship Damaged
0130	4 PBY	Torpedo	1 AP or AK (estimate)	1 AP or AK 1 hit
0710	4 B26 & 6 TBF	Torpedo	-----	2 CV (estimate 2 hits)
0755	16 VLB	Glide Bombing	-----	SORYU (CV) 3 hits
0820	11 VMB	Glide Bombing	-----	BB 2 hits
0814	16 B17	Horizontal High Altitude	-----	1 CV 1 hit SORYU (CV) 2 hits

Only 1 Carrier, SORYU, damaged enough to limit operations at this time.

CARRIER FORCES

0920	15 VTB (HORNET)	Torpedo	-----	KAGA (CV) 1 hit 1 CV 1 hit (estimated)
1020	26 VTB (ENTERPRISE) (YORKTOWN)	Torpedo	-----	1 CV 2 hits (estimated) 1 CV 1 hit (estimated)
1022	50 VSB (ENTERPRISE) (YORKTOWN)	Dive bombing	AKAGI - Hit many times, burning fiercely. KAGA - Hit many times, burning fiercely.	SORYU - several hits. 1 BB 1000 lb. hit, severe damage, mass of flames. 1 BB - 1-1000 lb. hit. 1 CL or DD - 1-1000 lb. hit believed sunk.

After these attacks 3 carriers out of action and later sank.

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Subject: Battle of Midway (Cont'd) -----

47. Summary of losses inflicted on the enemy on 4 June (Cont'd).

<u>Time</u>	<u>Attacking Unit</u>	<u>Type Attack</u>	<u>Ship Sunk</u>	<u>Ship Damaged</u>
<u>SUBMARINE</u>				
1359	NAUTILUS	Torpedo	SORYU - 3 hits; this ship sunk by aircraft and Submarine.	

CARRIER FORCES

1705	40 VSB (HORNET) (ENTERPRISE & YORKTOWN)	Dive Bombing	HIRYU - Many hits, sank next morning.	
			1 BB - 2 hits	
			1 BB - 3 hits	
			1 CA - 2 hits	

After this attack 4 Japanese carriers were out of action.

MIDWAY FORCES

1810	12 B17	Horizontal Bombing	1 DD	AKAGI(CV) 3 hits
				1 CA - 1 hit
				1 CA - 1 hit, smoking.

5 JUNE

48. After attacking the HIRYU, Task Force 16 stood to the eastward and back to the westward during the night. Fighter attacks on B-17's before sunset indicated possibly a fifth Japanese carrier northwest of Midway and there was every indication that the enemy was continuing to close. The first information on the 5th was TAMBOR's report of many ships 90 miles west of Midway. This looked like a landing attempt, so Task Force 16 changed course to a point north of Midway and increased speed to 25 knots. When

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reports after daylight made it clear that the Japanese had reversed course, the Task Force headed west and then northwest in pursuit of a burning CV lagging behind 2 BB (1 damaged), 3 CA and 4 DD. At 1500-1530 a striking group of planes from each carrier set off in a 250 mile search to the northwest, unsuccessfully; the only quarry found were 2 DD (possibly only 1) which were bombed but not hit.

49. Because of the night contact indicating that the enemy was persisting in his plans for a landing attack, all submarines were directed to close Midway in order to take advantage of the opportunity to attack transports and supporting ships when they were most vulnerable. After the retirement of the enemy became apparent, the fastest submarines were sent in chase and others returning from western patrols were directed to the expected lines of retirement of the enemy.

50. There were several contacts on the 5th by scouting planes, the two major ones being:

- (a) a transport group west of Midway trailed by 2 damaged CA (reported as BB);
- (b) the already mentioned retiring striking force of 2 BB (1 damaged), 3 CA, 4 DD trailed by a burning carrier to the northwest.

About 0430 12 B-17's departed in search of the western group but because of unfavorable weather could not locate them. Later, as more patrol plane reports came in, they found the target and attacked just after a group of 12 marine dive bombers. These leaving Midway at 0700 had struck a wide oil slick about 40 miles from the CA's and followed it in to attack position. Dives began at 0808. Results were:

1 CA (already damaged)	1 hit forward
	1 close miss astern.

When the planes left between 0820 and 0830 the CA was listed "badly" to starboard and turning in sharp circles to starboard.

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51. Eight B-17's attacked both the damaged CA's about 0830 with 4 to 8-500 pound bombs per plane, altitude 19,000 - 20,000 feet. They report one certain hit on stern of 1 CA.

52. At 1320 in the afternoon, 7 B-17's armed with 8-500 bombs each set out to the northwest to attack the remnants of the Japanese striking force; and at 1545 another group of 5 departed. Enroute, the first group sighted 1 CA but found nothing beyond. On the return journey, bombing from 9,000 to 16,000 feet, they report making 3 hits on the CA, bearing 300°, distant 300 miles from Midway. The second group likewise found and attacked only 1 CA, bearing 320°, 425 miles from Midway, no hits. On this attack one pilot dropped his bomb-bay gasoline tank with the bombs and did not return. One other plane ran out of gas and landed in the sea 15 miles from Midway, plane and 1 of the crew lost. These were the only losses of B17's attack on the Japanese fleet.

53. Summary of losses inflicted on the enemy 5 June:

1 CA (already damaged)	1 hit (Both hits may have
1 CA (already damaged)	1 hit been on same CA)
1 CA	3 hits

6 JUNE 1942

54. Task Force 16's search to the northwest on 5 June had been unsuccessful and weather conditions there were deteriorating. The best opportunity for contacting any of the fleeing enemy units appeared to be to the West. Therefore, on the evening of 5 June the force was turned to a westerly course, and speed reduced to 15 knots because of a growing shortage of fuel in the destroyers.

55. At 0510, 6 June, 18 VSB were launched for a 200 mile search in the western semicircle. Two contacts were made almost simultaneously. The first at 0640 was of 2 CA and 2 DD on course SW, speed 15 bearing about 275, distance 400 miles from Midway. The second at 0645, bearing about 280°, distance 435 miles from Midway, though variously identified, appears to have been the MIKUMA and MOGAMI with 3 or 4 DD on course west, speed 10.

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56. The HORNET's planes launched the first attack, striking the MOGAMI group between 0930 and 1000. Positions plotted on chart of battle are estimated from all data available and do not accord with HORNET's plot. Results appear to be:

1 CA - 2-1000 lb., 1 - 500 pound bomb hits.

1 CA - 2 - 1000 lb. bomb hits

1 DD - 1 - 500 lb. bomb hit. A cruiser SOC pilot saw this ship sink.

57. ENTERPRISE Group now attacked most effectively. After sighting 2 CA with 2 or 3 DD, part of the group searched ahead for the reported BB. One of the VB Squadrons, however, quitting the search began attacking the two CA at about 1140. The other squadrons came in at intervals later so that the last attack was not finished until after 1300. From the stories of survivors of MIKUMA it appears that the first planes at 1140 hit and disabled the MIKUMA and the last ones about 1300 finished her off when a bomb amidships detonated her torpedoes. The ENTERPRISE Group reported 1 CA as "dead in the water burning furiously with heavy explosions" shattered and abandoned. If they had waited a few minutes their account would have been different. She heeled over and sank very soon after the last hit.

58. The other CA, apparently the MOGAMI, was also hit but proceeded westward making an oil slick and smoking heavily. Two destroyers accompanied her.

59. Two hours later the HORNET launched the final attack of the four day battle with 1000 pound bombs, leaving the MOGAMI gutted and abandoned, and reporting hits on another CA or CL and one hit on a destroyer. A photographic plane, which obtained the pictures accompanying enclosure, while over the MOGAMI hulk about 1730 saw a CL and a destroyer fleeing to the westward.

60. The only other attack on 6 June was by a flight of 11 B-17's sent out to attack the transport force on its estimated retirement course. This force was not found. On the return by separate routes one section of 6 of these at 1640, bearing about 262, 400 miles from Midway, dropped a pattern of 20-1000 and 1100

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pound bombs and reported two hits on a cruiser which "sank in 15 seconds". This was the U.S.S. GRAYLING hastily submerging. Fortunately she received no damage.

61. Results of attacks on 6 June were:

2 CA, MOGAMI and MIKUMA, sunk.

1 CL or DL damaged.

1 DD sunk.

1 DD damaged by strafing.

62. After YORKTOWN was abandoned on 4 June, HUGHES was left to guard her during the night. Task Force 16 cruisers rejoined their force. Part of Task Force 17 proceeded to tanker rendezvous for fueling; remainder of Force proceeded to eastward clear of YORKTOWN with plans for salvage next day. VIREO, SEMINOLE, NAVAJO, and FULTON, had meanwhile been dispatched to assist. The following morning the HUGHES rescued from YORKTOWN 2 wounded enlisted men, who had not been found in the darkened damaged ship when she was abandoned, and a YORKTOWN fighter pilot, shot down in action, who rowed up in his boat. VIREO joined about noon 5 June and at 1436 began towing at about 2 knots on course 090. GWINN joined about 1600 and put salvage party aboard. MONAGHAN joined soon afterwards. Salvage party was removed at dusk.

63. At 0220 on 6 June HAMMANN, BALCH and BENHAM joined under commanding officer YORKTOWN. Destroyer screen circled at 12-14 knots. Salvage party went aboard (later HAMMANN secured alongside to assist) and had reduced list several degrees when at 1335 torpedo wakes were observed. At 1336 YORKTOWN received 2 hits, and HAMMANN 2 hits, one under her bridge and the second just abaft the mainmast. HAMMANN sank at 1339 with many heavy explosions, probably depth charges or warheads, which killed a number of personnel in the water. Questioning of HAMMANN personnel has brought out that

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not only were safety forks in place, but they were inspected after HAMMANN was hit. There is a possibility that another torpedo struck as she sank, detonating war heads or depth charges.

64. Remaining salvage party was removed from YORKTOWN and surviving personnel rescued from the sea. Search for the submarine continued with intermittent contacts (many false) and depth charge attacks all afternoon, one bringing up heavy oil. At 1845 heavy black smoke was sighted on the horizon 19,000 yards from the destroyers and was soon identified as coming from an enemy submarine (smoke probably from Diesels) proceeding away from YORKTOWN at high speed. Destroyers gave chase and opened fire. Submarine submerged at about 2127 with last splashes on in deflection and apparently straddling. Search was continued until about 0300, 7 June with no results except location of a large oil slick, diesel odor. It is believed the submarine was damaged but not sunk.

65. After slowly capsizing to port, at 0501, 7 June, in about 30-36 N, 176-34 W, YORKTOWN sank.

LESSONS AND CONCLUSIONS FROM THE ACTION

66. This action brings out some new lessons and drives home other definite ones previously learned. For convenient reference, at the expense of some repetition, these are discussed in this section.

67. The Concept of a Mobile Air Force is not acceptable for the Mid-Pacific area with present planes and present facilities. For a long coastal district it may be possible to maintain large air forces at major dispersing centers and to move them effectively from point to point as the situation requires. This is not true of the area in which Oahu is the central base. Most points are too weakly held and do not yet have adequate service units and facilities. Pilots in our rapidly expanding air forces are not and will not for some time be sufficiently trained to operate effectively in a number of remote and unfamiliar localities. Distances over water between landing fields are too great - we could not get fighter reinforcements to Midway on 4 June after virtually all the fighters there had

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been put out of action combating the one short Japanese raid. The lesson is simply that we must provide more and more planes permanently based at those advanced stations which are subject to enemy attack.

68. Planes for Army and Navy. One of the primary weaknesses which showed up quickly in action was the Navy's lack of certain plane types already in use by the Army, and equally the unsuitability of certain Army types for the type of job required of them in these island areas. Each service must obviously have the types of planes it requires, regardless of any earlier agreements of Joint Boards which limit types or functions.

(a) The Navy PBV's, while excellent for long range search, do not have the performance or defensive characteristics required to stand up against strong enemy air opposition. The vital requirement of continuous tracking, therefore, fails when enemy air enters the picture. On the other hand, the Army has its B-17's and B-24's, types which are very well adapted to this service. Sufficient numbers of these types should be immediately made available to the Navy for long range search and tracking purposes.

(b) High altitude horizontal bombing has proven itself relatively ineffective against maneuvering surface vessels. As Commander Cruiser Division SIX states, "Our own sea forces, and apparently enemy sea forces, have little respect for high altitude bombing, the results of which are mostly 'near misses'," and not near enough. Even in peacetime, high altitude horizontal bombing from about 10,000 feet results in only a small percentage of hits on a maneuvering target of battleship size, and as the altitude increases the percentage goes further down. Such results will not stop a determined fleet. On the other hand, the aircraft torpedo and dive bomber have proven themselves, in this action as well as in all prior experience of other belligerents, to be the only truly effective weapon for such attack. Island and coastal based planes should consist of a large percentage of these types, whether they are manned by the Army or the Navy.

(c) It has been our practice to complement Marine fighter squadrons on shore with planes of carrier type. This results in a distinct and unwarranted reduction in performance and ability to

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combat the enemy. Having adequate ground facilities, the Marine VF squadrons ought to be furnished with the very best fighting planes available to the country. Because of the limitations which carrier operation imposes on Naval planes, suitable fighters will naturally be Army types.

69. More Planes are Required in Oahu. We must speedily increase the flow of planes of all types, with service units, facilities and personnel, to the Mid-Pacific area. Strong aircraft reinforcements in the Hawaiian-Midway area were received in flights of B-17's from the west coast and in the highly valuable HAMMONDSPORT and KITTYHAWK during the last half of May. Even so, the shorebased aircraft strength in this area was not adequate in numbers or in types and could not alone have stopped or even checked the Japanese advance. Had we lacked early information of the Japanese movement, and had we been caught with Carrier Task Forces dispersed, possibly as far away as the Coral Sea, the Battle of Midway would have ended far differently.

70. A Grid System Capable of Easy Application to extensive joint over water operations by Army and Navy, or by either or both in conjunction with Allied air or naval forces, is a necessity. Neither the Navy basic grid, nor the Air Warning Service grid, is universally adaptable. Each possesses particular advantages for particular uses. Both were available during the Battle of Midway. Neither was used. Instead, recourse was had to designating positions either by bearing and distance from a prearranged reference point or in latitude - longitude coordinates, the only two methods quickly applicable by an air pilot or navigator without extensive advance preparation. The present British lettered coordinate system, S.P 02274, provides for designating positions by either bearing and distance from any even degree latitude-longitude intersection or in encoded latitude-longitude coordinates. This system has worldwide application, distribution to allied naval forces is already complete, and security is good. We should adopt it.

71. The excellent Coordination of Dive bombing and torpedo plane attacks, so successful in the Coral Sea, was missing in the Battle of Midway. Chief among the factors preventing coordination were the Japanese tactics in concentrating fighters on

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our torpedo planes. This let the dive bombers in so that we sank their carriers just the same, but at the very high cost of most of our torpedo planes.

72. TBD planes are fatally inadequate for their purpose. The loss of the brave men who unhesitatingly went to their death in them is grievous. The TBF is much improved, but still cannot attack ships defended by fighters without fighter support. Long range carrier fighters must be developed.

73. The Japanese apparently had fighter protection over their carriers from about 20,000 feet on down to the torpedo plane attack level. We shall have to establish at least 2 levels of fighter combat patrol.

74. Our F4F-4 is markedly inferior to the Japanese Zero fighter in speed, maneuverability, and climb. These characteristics must be improved, but not at the cost of reducing the present overall superiority that in the Battle of Midway enabled our carrier fighter squadrons to shoot down about 3 zero fighters for each of our own lost. However much this superiority may exist in our splendid pilots, part at least rests in the armor, armament and leak proof tanks of our planes.

75. In most engagements our fighters were outnumbered. For this campaign the number of fighters in each carrier was increased from 18 to 27. It may be necessary to increase even further the percentage of VF types carried.

76. Replacement carrier air groups must be ready ashore so that after battle a depleted carrier group can be brought to a shore station for refreshment and replacements. Each replacement group should be kept as a complete unit and should be highly trained before going to sea.

77. Satisfactory training still shows up as one of the greatest difficulties in war operations, both for antiaircraft gunners and aircraft personnel. Task Force commanders are taking every opportunity possible underway to fire practices and train pilots in attack procedures. At best, this training can only

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prevent deterioration of skill. Basic and thorough refresher training must be given at shore schools. The proficiency of our personnel, both ship and aircraft, will not reach the level desired until shore schools and training devices under development are fully in service.

78. Aircraft should be launched and attack completed with the absolute minimum loss of time. Once the attack was joined, our pilots pressed it home with resolution and matchless audacity; but it is believed their successes would have been greater and their losses smaller had there been closer coordination of attacking types.

79. Aircraft tracking of enemy formations has been unsatisfactory because of inadequate types and numbers of planes. Early, accurate, and continuous information of the enemy is essential for successful attack by carrier groups. Contact once made must be held and tracking information broadcast. Tracking should be conducted by shore based planes, when in range of suitable bases. The Japanese employment as scouts of seaplanes carried by tenders warrants study. No matter how efficient this search and tracking, carriers should still maintain an alert search with their own planes, accepting reduction in offensive power for greater security. The Japanese have been very successful with non-carrier searching, but in the Coral Sea and at Midway they were caught with planes on deck.

80. Fighter direction was much better than in the Coral Sea. Over half the bombers and torpedo planes that attacked the YORKTOWN, along with a number of accompanying fighters, were shot down. Development of tactics in stationing fighters at various altitudes and distances from the carrier, along with the Fighter Direction School now being established in Oahu, should produce further improvement.

81. Superfrequency voice sets are needed for fighter direction and other limited range voice communication.

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82. Communications were swift and efficient. By placing all Midway planes, whether Army or Navy, and all submarines operating there on a common radio frequency with provision that surface craft intercept these reports, many relays of enemy information were eliminated with consequent earlier receipt by interested commanders.

83. All carriers must have two search Radars one (if not both) of which is at least equal in performance to CXAM. The SC does not meet this requirement.

84. Gasoline fires in carriers are a serious menace. 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.

85. Gunnery still improves on those ships that have been in action a number of times. Some crews have been in enough battles to consider themselves seasoned veterans. Part of the improvement is in better fire discipline that comes with battle experience. A very important part comes from the greater number of automatic weapons now on our ships. Most ships need more of these. The greatest need, at present, is for the directors and lead computing sights now under manufacture for automatic weapons.

86. Effectiveness of aircraft torpedoes and bombs must be increased.

(a) A larger torpedo warhead is urgently required. The present strengthened torpedo is a favorable step in the right direction, but the torpedo must be designed for much higher speed drops. In the Midway action the B-26 and TBF planes received their most serious losses from Japanese fighters when they slowed down to limiting torpedo dropping speed.

(b) Had the 1000 lb. armor piercing bomb under development been available for dive bombers, fewer of the many ships that were hit would have escaped; and fewer hits would have been needed to destroy the carriers.

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87. The value of a close screen in protecting carrier against torpedo planes was demonstrated during the attacks on the YORKTOWN. Not over 4 planes got through to launch torpedoes. Unfortunately she was slowed down by previous damage or she might have avoided these. A strong screen of 4 cruisers and a squadron of destroyers is the present minimum requirement for task forces containing a carrier. Present reorganization of forces places them at approximately this strength.

88. Combined training is needed by land based aircraft and Fleet units to provide for better exchange of information and coordination of attack. The superior operations of the unit of B-17's under Lieut. Colonel W. C. Sweeney, U.S.A. of 431st Bombardment Squadron, show the benefit of prolonged experience with naval forces which this squadron had obtained during coordinated patrol operations. All units require more training in sending clear, complete and accurate reports that will give a commander all the information he needs to know, completely correct, without repeated questioning.

89. Correct information is still one of the hardest things for a commander to get in action. It is especially difficult in such a battle of many battles as this one was, spread over a vast sea area. Training, suitable tracking aircraft, and some of the other steps mentioned in the foregoing paragraphs should alleviate this difficulty. It is considered that Commanders of Task Force SIXTEEN and SEVENTEEN and Naval Air Station Midway showed sound judgement and decision in correctly interpreting the many confused situations that came up during the action.

90. The performance of officers and men was of the highest order not only at Midway and afloat but equally so among those at Oahu not privileged to be in the front line of battle. I am proud to report that the cooperative devotion to duty of all those involved was so marked that, despite the necessarily decisive part played by our three carriers, this defeat of the Japanese Arms and ambitions was truly a victory of the United States' armed forces and not of the Navy alone.

C. W. Nimitz
C. W. NIMITZ