

U.S.S. SOUTH DAKOTA.

BB57/A16-3/(0165)

C-O-N-F-I-D-E-N-T-I-A-L

From: Commanding Officer.
 To : Commander-in-Chief, U.S. Fleet.
 Via : (1) Commander Task Force SIXTY FOUR.
 (2) Commander South Pacific.
 (3) Commander Pacific Fleet.

Subject: Action report, night engagement 14-15 November, 1942, with Japanese naval units, off Savo Island.

Enclosures: (A) Reconstructed navigational track and important events.
 (B) Profile diagram of SOUTH DAKOTA, showing location of hits sustained.
 (C) Composite radio log.
 (D) Detailed list of damage.
 (E) Photographs of damage (27 prints) (32 follow)
 (F) Personnel casualties.
 (G) Extracts - quartermaster's log.
 (H) Extracts - engineers bell book.

1. Summary of outstanding events.

Task Force 64 consisting of WASHINGTON, SOUTH DAKOTA, PRESTON, GWIN, BENHAM, and WATKINS took its departure from Task Force 16 at about sunset on November 13, 1942, while south of Guadalcanal. This task force was unable to cover Guadalcanal that evening and protect it against the bombardment scheduled by the enemy. A point about fifty miles south-by-west from Guadalcanal was reached during late forenoon of 14 November. Most of the day was spent in this area avoiding contact with enemy planes. The enemy did sight this force and reported it as a force of possibly one battleship, one cruiser and four destroyers.

Information from despatches indicated the presence of three groups of enemy ships to the northwest of Guadalcanal. One of these, a twenty-four ship convoy, had been subjected to heavy air attacks during the day and had broken up into small groups on various courses when last seen about 1830. (All times reported herein are zone minus twelve.) A second group, when sighted that morning, was reported as composed of two battleships, one light cruiser, and eleven destroyers. A third group of twelve ships in a convoy trailed the battleship group when last reported that morning. Other scattered units indicated the presence of possibly two heavy cruisers three light cruisers, and twelve destroyers. Most of these latter however were engaged in covering the retirement of damaged transports and other units. When at about 2330 it was learned that an enemy convoy was coming through the passage off Savo Island sometime between 0030 and 0230, the covering force was at once presumed to consist chiefly of the battleship group reported earlier in the day. An earlier report indicated the presence of an enemy light cruiser and destroyer in a cove on Savo Island.

The approach to Savo Island was made from the south on course 020° T, leaving Savo about 18 miles abeam to starboard. At 2210 course was changed to 090° T, leaving Savo about 11 miles abeam to starboard. When the middle of Savo was abeam course was changed to 150° T. On this leg the speed remained 17 knots. At 2353 course was changed to 270° T. A sharp lookout had been maintained on Savo for signs of the cruiser.

25 NOV 1942

Visibility was good, a quarter moon showing, and some cloudiness casting shadows that made excellent dark background patches. At 0008 three ships were observed from the bridge visually, and checked by radar to bear 330° T, range 18,100 yards. The leading ship was large and is believed to have been a heavy cruiser or a battleship. Astern of it were two smaller ships, believed to be light cruisers, possibly one of them being a heavy cruiser. Contact was reported by TBS to the task force commander, and he very soon after this ordered "open fire when you are ready". At 0017 the WASHINGTON opened fire on the leading, or right hand, ship. Less than a minute later the SOUTH DAKOTA main battery opened fire on the nearest ship at 15,700 yards, which at this time was overlapping in deflection the more distant ship astern of the leader. Both initial salvos started fires on the targets. At this instant Japanese voice transmissions, which has been picked up on 2070-2080 kcs. earlier at about 2130, became excited and very numerous. Some thirteen different stations were on this frequency at one time. The SOUTH DAKOTA salvo was spotted up 100 yards and right two miles to get on the selected target although the other ship had been hit. Firing was continued until the target had disappeared off the radar screen. Observers on board substantiated the radar operators' statements that the two leading targets were sunk. The third target, the last ship in the open column, was last reported as an indistinct and doubtful radar 'pip'. The main battery fire was then directed against another target at an estimated range of 10,000 - 11,000 yards but the bearing of this target changed so rapidly that divided fire was ordered when the forward turrets hit their train limit stops. Turret three kept the target under fire, shooting over our own stern and demolishing our planes. The target was observed to break in two and sink. It was identified as a cruiser. During this phase power troubles were experienced and at one time firing the main battery by auxiliary had been ordered but not carried out. During the latter part of this first phase the secondary battery was firing at enemy ships close to shore in the direction of Savo Island. These were tentatively identified as eight destroyers, of which two were observed on fire. One of these exploded and the fires soon stopped.

A short lull followed the sinking of the enemy cruiser astern of the SOUTH DAKOTA. No hits had been reported on the ship although shorts and overs were heard and seen. Enemy fire on the WASHINGTON was observed to be definitely over, only a few shorts were observed. Gun flashes had blinded most of the personnel in the conning tower as well as at other stations, temporarily, and it was very difficult to see the WASHINGTON. A change of course had to be made to maneuver clear of two of our destroyers which had been damaged in the action this far.

The second phase began abruptly. Radar plot had reported four enemy ships, just clear of the left tangent of Savo Island, approaching from the starboard bow. The greatest concern in Conn at this time was to avoid collision with our own units leading the column. Radar plot had just finished reporting the enemy bearing 070° relative, range 5,800 yards, when the SOUTH DAKOTA was illuminated by four searchlights on the second ship in the enemy column. These searchlights were in pairs, each pair of lights having one light above the other. At the same instant the WASHINGTON opened fire with her main battery on the leading ship which was the largest of the four. It was a vigorous fire that prevented the enemy from inflicting more damage on the SOUTH DAKOTA. The SOUTH DAKOTA was under triple or quadruple concentration when the enemy opened fire about thirty seconds after illumination. The SOUTH DAKOTA secondary battery opened fire simultaneously with the enemy and the searchlights were extinguished at once. Our main battery did not actually fire on the illuminating ship until just after the lights went out. Two or three salvos were fired and all hit.

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The ship was broken in two and the 'pip' disappeared from the radar screen. The WASHINGTON's target when last observed was seen to pour out huge clouds of smoke. Some observers report seeing a deep red glow from within the ship but not much credence has been given to this observation. The third ship was put under fire both from our secondary battery and our main battery. Data at this point is not clear, but it is believed that the WASHINGTON also shifted to this target. When last seen, this ship, believed to be a cruiser, was gushing volumes of black smoke. No information is available as to whether the last ship was ever under fire, but it is believed that several salvos were fired at it by the secondary battery. All enemy ships were silenced because during the last two or three minutes of firing no gunfire was observed on the enemy ships. All batteries ceased firing at 0110, shortly after turret three reported training trouble because of a shell hit somewhere near its gas seal ring. This hit was later identified as a fourteen inch shell hit from fragments recovered in that area, and the size of the indentation in the barbette.

The location of the WASHINGTON was not known. Radio communication had failed. Radar plot had been demolished. Main battery director II radar was the only radar functioning. Three fire control radars had been damaged by shells, and number 4 secondary was inoperative due to electrical troubles. Many dead and wounded had been reported by battle station two as well as sky control. Turret three reported difficulty in train although it believed that it could still fire. Reports of fires were coming in, none serious, except that Conn believed the fire in the foremast structure to be serious, which it was not. Damage control had reported only minor damage to the hull and that we were shipping some water on turns at high speed but reported nothing dangerous. It was decided to withdraw to the 1000 rendezvous position assigned by the task force commander prior to the engagement.

2. Preliminary operations.

An accurate estimate of the enemy forces involved cannot be made. Officers who would have been the most reliable observers were in no position to make careful observations or record data because of the numerous power failures and shifting of fire control. Information of enemy forces has already been summarized in the first section of this report. Exact analysis of the enemy operations is not feasible, however the following is believed to be a fair estimate.

The enemy covering force preceded the convoy of transports. It may be possible that he expected one of our battleships, but did not expect to be engaged at the range at which this force opened fire. The fact that the trailing ships in the first group encountered were not in column and one ship's fire was masked by another, indicates that the enemy was taken by surprise. However, the resourcefulness of the enemy is apparent in that while we engaged the vanguard, he sent a strong force, including one battleship, around Savo Island to attack us from the flank or rear. Somehow he had also placed destroyers close to shore in a good striking position had this force changed course to leave Savo Island on our port hand. Perhaps in his oriental fashion he had planned to repeat the Quincy, Astoria, Vincennes crossing the T from astern. Maintaining the course at about 300° T, we did not play up to the enemy's expectations.

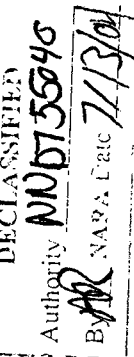
During our approach to Savo Island, ships in the task force formed column. Four destroyers were stationed directly ahead of the WASHINGTON, distance 4,000 yards. The SOUTH DAKOTA was assigned station 1,500 yards astern of the WASHINGTON. Details of the approach are shown in Enclosure (A) reconstructed from navigational data recorded during the battle. DRT track is not available since the device did not function properly due to power failures during the engagement, and a fragment of a Jap shell went through it.

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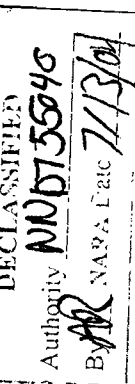
The sea was calm, wind 2-6 knots, easterly and southeasterly. There was a thin cloud layer covering nine tenths of the sky, estimated altitude 10,000 feet. Some low clouds were at 2,000 feet. The amount of upper clouds decreased, while the lower clouds increased toward the end of the engagement, giving an overcast by 0200. Surface visibility until the overcast was about 12 miles. The moon was in its first quarter intermittently obscured by low clouds and casting dark shadows on the water forming excellent dark background.

3. CHRONOLOGICAL LOG OF THE BATTLE. (Minus TWELVE time, 14-15 Nov.).

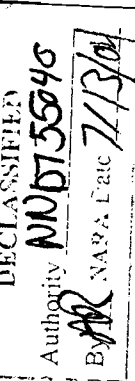
- 2100 General Quarters. Base course 020° T, speed 23 knots zig-zag.
- 2105 Radar contact, bearing 323° R, about 25,000 yds. unidentified, but believed to be a rain squall.
- 2107 Ship manned and ready for general quarters.
- 2110 Ceased zig-zag, steadied on course 020° T. Flashes of light broad on port bow, over the horizon, possibly gunfire or burning ships exploding. Thought to be enemy transports set on fire by our aircraft during afternoon bombings.
- 2125 Changed standard speed to 20 knots.
- 2133 Glow in western sky, 270° R. Too far to see the fire.
- 2135 Changed speed to 24 knots to close up on WASHINGTON.
- 2145 Plane sighted 050° R, flashed recognition signal, friendly.
- 2210 Changed course to 090° T, rounding Savo Island to starboard.
- 2235 Friendly plane on the starboard bow flashing recognition signal.
- 2245 Many Japanese voice transmissions heard on 2070-2080 kcs. Thought probably transports that were damaged by our planes.
- 2247 Changed course to 150° T.
- 2312 Glow sighted near beach of Savo Island, bearing 280° Tracked by computer giving speed zero. Identified as a rock. Not the light cruiser and destroyer reported to be present.
- 2317 CTF 64 talking with Cactus on 3785. Our force reported as enemy by observers, probably MTB's. Information useful to the enemy was passed by plain language, our course and code name location.
- 2330 Changed speed to 17 knots. Despatch received stating heavily escorted convoy expected off Savo Island between 0030 and 0230.
- 2355 Changed course to 270° T.
- 0007 Sighted three ships to the right of Savo Island, course 090° T (?).



- 0008 Three ships bearing 330° T, 18,300 yards, by radar.
- 0013 Comtaskfor 64 sent "You may open fire when you are ready".
- 0014 Fire control officer reported to Conn "Ready to open fire". Target tracked by fire control radar, solution based on radar ranges.
- 0015 Radar plot reported 345° T, distance 17,000 yards, speed 21.
- 0017 WASHINGTON opened fire on the enemy.
- 0018 SOUTH DAKOTA opened fire on the enemy, left two ships almost in line, apparently on reverse courses, straddled, and fires started. Range 15,700 yards. Spot U-100, R02.
- 0019-15 Second salvo, range 15,800. Spot U-300.
Second ship in formation SOUTH DAKOTA's target.
- 0020 Increased speed to 23 knots.
Many Jap voice transmissions on 2070 heard. Several stopped abruptly, weaker ones continuing.
- 0020-10 Third salvo, range 16,100. Spot U-400. Target burning.
- 0020-42 Fourth salvo, range, 16,500. Spot D-100.
- 0021-40 Fifth salvo, range 17,000. Spot NC.
- 0022-15 Sixth salvo, range 17,600. Spot U-200.
- 0023-00 Seventh salvo, range 18,000. Spot U-400. WASHINGTON target disappeared. Sunk. (WASHINGTON's target identified by two lookouts as an enemy battleship, ablaze from stem to stern.)
- 0024-18 Eighth salvo, range 18,000. Spot- none. Target disappeared. Sunk.
- 0025 Changed course to 300° T.
- 0028 Main battery shifted to divide fire as all turrets could not bear.
- 0030 Radar plot reports ships bearing 315° T, 13,000 yards, closing. Ninth salvo (turret III) range 10,800. Spot D-200.
- 0030-40 Tenth salvo (all turrets) range 10,700. Spot D-100.
- 0031-20 Eleventh salvo (all turrets) range 10,700. Spot NC.
- 0031-58 Twelfth salvo (turret III) range 10,500. Spot - non
- 0033 Thirteenth salvo (turret III) range 10,400. No spot. Checked fire. Shifted to collective fire. Lost all power, gyros and all electric fire control equipment out. Circuit breakers on No. 4 switchboard tripped out. Load shifted to No. 3 switchboard. Bus transfer panel for No. 6 and 8 5" mounts shifted to alternate source on No. 3 board, causing No. 6 generator to trip out. Feeder circuit breaker also tripped.



- 0033-30 Regained power in plotting room then lost it almost immediately.
- 0034 Two enemy ships rounding Savo Island to the eastward, bearing 345° T. reported by radar plot. (No record of range).
Enemy firing on our formation. Shorts few, overs many, especially on the WASHINGTON.
- 0035 No. 5 and 6 generators paralleled on boards 3 and 4. Normal power supply retained. Circuit breaker, normal supply to I.C. switchboard tripped. Circuits cut in one by one to isolate faulty one.
Trouble found with mount 6 and 8 bus, feeder circuit breaker FE 0420 tripping out. One of our destroyers (WALKE) exploded ahead of the WASHINGTON. Asked WASHINGTON on TBS if any damage. Reply "We are okay".
PRESTON reported "Am okay, one hit in fireroom".
0033 - 0036 Power reported off in all turrets. Main battery shifted to auxiliary but did not fire. (Failure due to shorts in Mounts 6 and 8, tripped circuit breakers on generators 5 and 6).
- 0036 Ship started turn to left to clear damaged destroyers ahead, then sharply turned to starboard to clear and again steadied on base course, 300° T.
Power back on again. Gyros had tripped out but cut in again almost immediately. Mounts 6 and 8 still out.
- 0038 Passed one of our destroyers abeam to port. Lull in firing enabled our men to hear survivors shouting for help. Some men in the water using flashlights.
Small electric fire reported in compartment C-303L. Repair 4 sent to investigate fire, also in Mount 8.
Changed course to 290° T.
- 0040 Changed course to 285° T, and speed to 26 knots.
- 0040-10 Main battery firing on targets close to Savo Island, fourteenth salvo, range 14,100. Spot D-300.
- 0041 Small fire in C-303L extinguished.
SG radar reported inoperative, gyros out.
- 0041-10 Fifteenth salvo, range 15,200. No spot, D-500 applied.
- 0042-05 Turret three firing on target astern set fire to planes.
Sixteenth salvo, range 15,500. No spot.
- 0043 Salvo blew two planes overboard and extinguished most of the fires started. Range 15,500. Spot NC.
Suspected hit received. Soundings taken on all flood boards.
Repair parties 3 and 4 sent to scene of fire on stern.
- 0043-15 Eighteenth salvo, range 15,800. No spot.
- 0043-40 Nineteenth salvo, range 16,100. Spot D-200.
- 0045 Main battery ceased firing. Target astern exploded and lost on radar screen.
- 0046 SG radar in commission again.

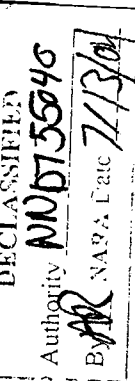


- 0047 Fire extinguished in vicinity of planes.
Main battery reported difficulty getting ranges and requested secondary battery directors to track. Radars in secondary directors 1 and 4 out, 2 and 3 doubtful. Radar plot reported ships bearing 070° R, 5,800 yards. One or two previous reports received at 7,000 yards, but overlooked in Conn while directing firecontrol to fire on target bearing 112° R.
- 0048 Enemy searchlights turned on SOUTH DAKOTA by second ship of enemy column, range about 5,000 yards, slightly forward of the beam. Four searchlights, closely grouped in pairs, each pair arranged vertically. WASHINGTON opened fire on leading target almost immediately. Our secondary was delayed firing on illuminating ship until enemy opened fire about 30 seconds after illumination. Lights went out. Shifted to primary collective, director 3 controlling main battery. Third ship in enemy column illuminated us as soon as second ship failed. Main battery fired two or three salvos on illuminating ship after lights were extinguished. Estimated range of 9,800. Appeared to list, no data available, but believed sunk, no target on radar screen. Large clouds of black smoke issuing from leader; steam, fire seen later. PRESTON and WALKE told to retire. No acknowledgements heard.
- 0049 First hits sustained. (?) Probably 1.1" clipping room in foremast structure.
Increased speed to 27 knots.
WASHINGTON asked "Are you alright", replied "Everything seems okay".
- 0050 More hits felt, unable to locate them.
- 0051 Main battery director 2 radar ranging, solution on target, range 6,500 yards. Main battery firing on third ship in column, enemy course opposite to our own.
- 0053 Three enemy ships reported coming out of Savo Island.
Estimated range 11,000 yards.
Enemy hitting us, chiefly in foremast structure.
- 0055 Director 1 unable to train forward of 040° R, probably shell hits.
Sky control designated target.
- 0056 Shell hit in 1.1" clipping room. Crew of Quad 1 killed, fires started in 1.1" clipping room. Flash down ammunition hoist to engineering passageway set two life jackets on fire. Some ammunition went off. Fire fought by men present.
Shell hit and detonation RDF2 loop.
- 0057 Slowed to 26 knots, searching for signs of WASHINGTON.
Secondary battery still firing on enemy ships.
Enemy hits in vicinity of radar plot. Shell through radar plot immediately after this killed Ensign Canfield. Steam line ruptured just outside of radar plot by 6-inch shell which penetrated into radar plot on port side and demolished it. Another shell very near same place immediately followed.

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Some confusion outside of Batt. TWO, three shells just went through that space, men killed, some wounded, several scalded by steam from steam whistle and siren line. Quieted down, and word sent for repair parties to extinguish fires in RDF 2, and send first aid for wounded. Ladders damaged, access difficult. Life jackets on deck in Batt. TWO catching fire.

- 0100 Secondary directors 1 and 3 tracking target. Director 1 controlling mount 1 star-shell spread. Two hits felt below decks. Speed increased to 27 knots.
- 0102 Searchlight illumination from abaft beam, (?). Sky control out. S.B. director 1 hit and out of commission. Engines ordered full speed. Radio antennae shot away, shifted to others.
- 0104 More hits felt. Secondary battery still firing. No communication with sky control. Shell hit, glancing off Mount 5, through signal storeroom, across the superstructure, into the after end of Mount 4. Shell did not explode, later found on deck, 8-inch disposed of by throwing overboard.
- 0105 More hits felt. Power to Sky 1 secured. Main radio directed to shift control 6390 kcs to bridge. Call to WASHINGTON useless. Antennae out.
- 0107 Main battery fired salvo, no data available.
- 0108 Ceased firing. No targets, no fire from enemy. WASHINGTON not in sight, no communication by TBS. Later investigation showed all forward antennae shot down.
- 0110 Engagement broken off, proceeding at full speed on course 235°T. Ship's repair parties and personnel not essential at damaged stations fighting fires, caring for the wounded and estimating damage done. Observed splashes on wake, 1000 yards astern. No enemy ships observed firing. Possibly one of those left burning.
- 0115 Attempting to raise WASHINGTON on 2620 kcs. All efforts hopeless until antennae cleared.
- 0120 Set listening watch on 2280, 2620, 4205, 6390 kcs.
- 0124 Changed course to 215°T. Three fires observed astern at scene of battle.
- 0130 Large explosion observed astern, no estimate of range made at the time.
- 0155 All fires reported extinguished.
- 0213 Communication with WASHINGTON on 2620 kcs. answered, then observing radio silence.

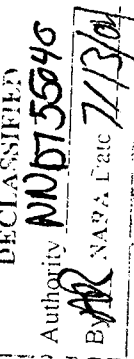


4. Enemy forces.

(a) The number of enemy ships involved in this action totals between fifteen and **eighteen**. Definite identification as to types is not possible. Officers and petty officer considered best qualified were too busy correcting casualties and power failures. Information from sky control is denied us in that both officers at that station were killed. A break-down of statements by lookouts and others about the decks leads to the following estimates:

- (1) Enemy group #1 - Leading ship, large, presumed to be a heavy cruiser and identified by at least three independent observers as a battleship. Two trailing ships, smaller in size, identified as light cruisers, possible heavy.
- (2) Enemy group 2 - Eight destroyers, close to shore of Savo Island. Eight groups firing were definitely accounted for. High rate of fire fits identity of destroyers.
- (3) Enemy group 3 - Column of four ships identified by radar personnel. Leading ship much larger than the others. One observer noticed "collar" around a single stack, tentatively identified it as an ISE or FUSO. Second and third ships in column, large, identified as heavy or light cruisers. No consistent identification of last ship in column, somewhat smaller, might have been a light cruiser.
- (4) Enemy group 4 - Column of three ships reported by radar plot personnel, rounding Savo Island toward end of engagement. Statements not positive. Lookouts inclined to believe they saw some transports.

(b) During the afternoon preceding the engagement, Japanese voice transmissions were heard on 2675. This is believed an aircraft frequency since it was most active during reported enemy air operations. At about 2130 considerable Japanese code heard in the radio spectrum between 2,000 - 4,000 kcs. No records were kept, but believed to be inter-base communications. At 2245 picked up Jap voice transmissions over a band 2070 - 2080 kilocycles. About thirteen different transmitters observed. Signals generally all strong. Some of the voices very excited, one thought to be feminine. Several operators thought to be talking very rapidly, making sounds like "ka-ki-ka-ga" repeated irregularly, presumed to be voice modulation to represent our "dah-dit-dah" morse code transmission. One operator definitely read numbers being sent this way. Frequency stability of transmitters good, modulation in all cases only fair. Indications that all transmitters were not crystal controlled.



Control station probably on shore had best signal, modulation, and enunciation, least excited of all. As soon as we opened fire this circuit was jammed with many voices, excited. Towards the end of the engagement the number of voices decreased and none heard after the engagement was broken off. At one time it was believed an effort was made to jam our 3785 but this was not successful and only lasted a few seconds at a time between our transmissions. Some english words were used, but marked with a Japanese accent and turned to Japanese towards the end of each transmission.

(c) There is no positive evidence that at any time during the engagement did the enemy resort to smoke or camouflage. The presence of the destroyers close to Savo Island was a natural employment of dark background. Whether this was premeditated or accidental cannot be determined. It may be that this destroyer group was sent around the western side of the island when we first opened fire on the leading ships at 16,000 yards. The second group engaged, coming from around the western end of the island, may have been an effort to catch us from the rear had this task force turned north to close the force to the northward of Savo Island.

(d) Enclosure B is a diagram showing the number and caliber of hits made by the enemy on the SOUTH DAKOTA. In general the enemy gunfire seemed very ineffective. Special note should be made as to the poor quality of the ammunition employed. Only one hit, on RDF₂ loop, of three possible explosions was of a high order of detonation. Fragmentation of projectiles was chiefly due to impact rather than explosion. The damage caused by enemy hits was very small compared with what we would expect from high order explosives. Most projectiles passed right through the ships structure. In one case an eight inch shell penetrated the foundations and center column of number I secondary director, two ready service boxes, and two bulkwarks without exploding. In another case an eight inch shell glanced off number 5 mount, pierced bulkheads from starboard to port within the foremast structure on the second superstructure deck, hit the after side of number 4 mount and was found on deck. This shell was thrown overboard as soon as discovered. There are many other cases of similar penetration without explosion for six inch and eight inch shells. A high rate of fire was attained by enemy destroyers which appeared to be directed at destroyers. A hail of shells equal in density to that which can be laid down by our secondary battery was observed to fall ahead of the WASHINGTON when our destroyers were hit. The enemy gunfire during the first phase was inaccurate in that very few shorts were observed and many overs were reported. During the second phase the number of high hits obtained on the foremast structure indicates that the enemy gun range was in error on the high side.

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(e) Every enemy ship brought under our fire was hit. The first group of three ships was hit on the first salvos both from the WASHINGTON and the SOUTH DAKOTA. One heavy cruiser, or battleship, in this group was sunk, by the WASHINGTON. The second ship in column, a heavy cruiser or possibly a light cruiser, was sunk by the SOUTH DAKOTA. The third ship, probably a light cruiser, was hit by the SOUTH DAKOTA first salvo and when last seen was still burning. The eight destroyers close up to Savo Island were under fire by the secondary batteries. Two of these ships, the extreme left hand one and the extreme right hand one were quickly on fire. The right hand ship was seen to explode and is believed sunk. Some observers report at least two other of these on fire, but a reasonable doubt exists in that only the extreme left hand ship was definitely on fire when last observed. The column of four ships which illuminated the SOUTH DAKOTA sustained heavy casualties. The leading ship, presumed to be a battleship, was seriously damaged and undoubtedly set on fire. It may be that this ship fired its last gesture salvo at the SOUTH DAKOTA which scored a fourteen inch hit on the barbette of turret III at the end of the action. The second ship in column was definitely sunk, reported exploding in two. The third ship in column was set on fire. The fourth ship in column is doubtful. No reliable evidence is available as to damages inflicted.

5. Own forces.

Our forces were composed of units already described in section 1 of this report. Communications were by radio, TBS primary, 6390 kcs secondary, and 2620 kcs alternate. Until battle damage caused a temporary failure in communications, all communications were satisfactory. No report of enemy radar was made by the radio operator specifically assigned to search with an ARC-1 search receiver. Enemy frequencies were searched with results enumerated under section 4 of this report. Copies of TBS, search, and Cactus control circuit, are appended as enclosure C. No smoke or camouflage was used by our force. Our gunnery was effective as indicated by results enumerated in section 4 above. Amplification of some of these points follows.

(a) Gunnery material failures were very few in number. All equipment stood up well under gunfire and hits were secured on the first salvo in almost every case. The most serious casualty was early loss of power due to failures at switchboards in the engineering spaces. This loss of power occurred repeatedly in the main battery director. Power failures and ship maneuvers due to the restricted sea room, necessitated an exceedingly large number of control shifts, fourteen were counted. Because of the intensive training in this particular type of procedure all shifts were made expeditiously and correctly. Fire discipline was excellent. Casualties were handled correctly, promptly, and efficiently. The problem of communication during action awaits a satisfactory solution. The number of reports coming to the fire control tower is enormous. Talkers have a tendency to try to shout each other in the belief that their information is of utmost importance. This noise might be

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eliminated by having the talker getting the fire control officers attention by touching him on the shoulder then delivering the information when the officer is ready to listen. This may eliminate confusion resulting from several talkers attempting to deliver information simultaneously.

(b) Ammunition expended during the action is listed:

16"/45	fired	115 rounds
5"/38	fired	305 rounds anti-aircraft, 83 rounds illuminating.
40 mm.		352 rounds, damaged by enemy gunfire.
1.1"/75		600 rounds, damaged by enemy gunfire.
20 mm.		1950 rounds, damaged by enemy gunfire.

(c) Radar fire control was used throughout the engagement. Main battery director II radar was in operation throughout the action except for power failures which required restarting. Main battery director I radar functioned properly until disabled by enemy hits. Radar ranging and spotting was perfect. Opening salvos were hitting. No difficulty was experienced in identifying our splashes with respect to the target. On the opening salvo the radar operator identified three targets, our splashes and the splashes made by the WASHINGTON on her target. At no time during the action were spots greater than pattern size needed or applied. The longest range used during the engagement was 18,000 yards, but it is believed that with real ships as targets radar spotting is reliable at extreme ranges assuming that both target and splashes are above the radars horizon. Training in radar ranging and spotting cannot be over-emphasized, it is the only effective means of controlling fire at night. Secondary battery radars performed equally as well until deranged by enemy hits on antennae, and associated fittings.

(d) Pertinent comments.

(1) Engineering.

Power was lost on all navigational and firecontrol circuits when the main power circuit breaker on the IC switchboard tripped due to short circuits caused by enemy gunfire. It is considered highly desirable to segregate the IC bus and the restricted FC bus on the IC switchboard. This alteration would require installation of a bank of single phase 440/117 volt, 30 KW transformers with control equipment.

The ship's service telephone switchboard became badly jammed due to destruction of type B telephones in areas exposed to gun blast. It is recommended that such exposed telephones be replaced with type C telephones.

A short circuit on the feeder cable energizing number 4 secondary battery director caused an overload. The power panel AQB circuit breaker was locked in. The overload was thereby transmitted to No. 4 switchboard causing No. 7 generator ACB breaker to open with consequent loss of one half of the power on the afterpart of the ship, including normal supply to 5-inch mounts 6 and 8, and alternate supply to turret III. No. 4 5-inch director and mounts 6 and 8 were shifted to alternate power supply, causing loss of power supply from No. 3 distribution board, including all

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power on the after part of the ship. These casualties would have been avoided had the AQB breaker to No. 4 5-inch director not been locked in. It is recommended that in the future AQB breakers should not be locked in.

(2) Medical

The medical department activity proceeded according to preconceived plans with remarkably little deviation. Officers and men promptly and efficiently rendered first aid. The locations of wounded were promptly reported and corpsmen were dispatched to the scenes to supervise their treatment and evacuation.

The wardroom had not been damaged and was light tight. It was designated as the casualty collecting station and illumination was provided by battle lanterns. Men not actively engaged were supplied with stretchers and they brought in the wounded. Each case was quickly examined and any necessary hemostasis, dressing, or sedation was there accomplished. The more seriously wounded were evacuated to the sickbay where intensive treatment for shock was initiated. A search was then made in all damaged areas for any wounded who might have been overlooked. The less seriously wounded were retained in the wardroom under observation and later were removed to a compartment near the sickbay. Minor injuries were treated as they were found and slightly wounded were promptly returned to their battle stations.

The hospital corpsman stationed in the upper part of the foremast structure had been seriously wounded. Three corpsmen sent up there could not get through because of fires and Z-closures. As soon as fires were under control the wounded on 07, 08 and 09 levels were evacuated though there was still no access to Sky Control where many wounded had been reported. It was ascertained however, that those wounded had received morphine syrette injections and that all bleeding had been stopped. As soon as the jammed hatch to Sky Control was freed a medical officer attended them until daylight made possible the lowering of wounded by line and canvas stretchers.

The seriously wounded exhibited extreme degrees of surgical shock. Four soon died in spite of energetic treatment and another reacted only after several days and after having had much plasma and four blood transfusions. One case of extensive abdominal visceral injury died on the operating table. However, a case of ruptured coecum in which operation was delayed some twelve hours because of shock is apparently recovering.

Removal of the dead was slow and difficult, but all were collected on the main deck, identified, and given a Christian burial at sea.

The quiet uncomplaining and self sacrificing conduct of the wounded was most impressive. There was no groaning or screaming. One survivor of a recent naval disaster, who was seriously wounded, became excited and developed an acute psychosis which was a contributory cause of death. Only one case of hysteria was noted and this was a quiet conversion type. The remarkable absence of psychic upset justifies the past policy of this ship in the elimination of temperamentally unfit personnel.

(e) Summary of damage.

A detailed enumeration of damage is attached as enclosure D, Photographs showing various damage with short description are attached as enclosure E. Profile diagram of ship showing location of various hits sustained is attached as enclosure B.

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There were no serious fires during or following the action. In general, fires were small and quickly extinguished, none spread beyond the immediate vicinity of ignition. In view of the number of hits and splinters, this is attributed to:

- (1) Previous removal of paint and linoleum.
- (2) General removal of mattresses from bunks above the waterline and use of flame retardant bedding bags.
- (3) Use of flame retardant canvas throughout the ship.
- (4) Clothing, paper forms, etc. kept behind metal.
- (5) Failure of enemy shells to explode, and if rare explosions occurred, they were of low order.
- (6) Smooth, rapid, and efficient functioning of repair parties.

Following is a list of fires which occurred: -

1. Passage B-319T. Fire reported direct to Repair II as being in 5" handling room. Passage was full of smoke with a red glow. Investigation revealed two burning life jackets ignited apparently by blast through ammunition hoist from clipping room, B-0502M, which had an 8" shell pass through it with resulting explosion of 1!1 clips and fire.

Passage was sprayed with fog nozzle. When jackets were discovered, they were extinguished with CO2.

This was a small fire, but potentially the most dangerous we had as it entered into the armored spaces.

2. Airplane fire. Reported to Damage Control as planes on fire. Decontamination party under the overhang of turret #3, Repair 4, and Repair 4A all investigated and helped extinguish.

Apparently one salvo from turret #3 ignited the planes, the next salvo blew two planes overboard and pretty well extinguished the fire in the third plane.

3. Life rafts under starboard catapult. Slightly later than plane fire and apparently a by-product of it. Easily extinguished. Repair 4.

later

4. 40mm quads. 8 & 9. Slightly/ than above and also by-product of plane fire. Canvas cover and canvas ammunition cover. Easily extinguished. Repair 4, Repair 4A.

5. B-206L. Passage between pay office and supply office. Fire reported to Damage Control. There was a fragment that came into this area from shell hole in fuel oil and ballast tank beneath it. Penetration of stationery locker and clothing locker caused small smoldering fire. Both Repair 2 and 3 worked on this fire. It was easily extinguished, but was difficult to locate small burning fragments.

6. 40mm quad.#2. Repair 1. Canvas smoldering from splinters extinguished by water.

7. 5" loading machine. Repair 1. Canvas smoldering from splinters extinguished by hand.

8. #1 secondary battery director. Lifejackets and cable extinguished by Repair 1. CO2 and hose.

9. Clipping room, B-0502M. Repair 1. Fire was out when repair party arrived. After shell passed through this clipping room, several 1!1 clips exploded. Powder was burning in forward port corner and life jackets of deceased and wounded men burning. JACOSEVICH, Stephen, S2c, entered clipping room with CO2 and extinguished the fire.

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10. Radio direction finder room. Repair 1, 4 and decontamination. This was our worst fire, it was directly under Batt. II where men were trapped by the whistle line being carried away. The nearest fire plug on the second superstructure had been hit and broken. It was necessary to rig a hose from the first superstructure and main deck for water. The superstructure was filled with dead and wounded, ladders were carried away. Also the passages were filled with machine gun crews who had taken cover there on orders prior to firing. These men were anxious and willing to help but a trained party of fire fighters would start up and be lost in the crowd before reaching the sixth level. The fire was largely electrical but included one bedding bag and life jacket of a man who was sleeping at his general quarters station. CO2 was not effective prior to arrival of water. After water was obtained, fire was quickly extinguished. CO2 put out electrical fire. Fire did not spread outside of radio direction finder room.
11. Radar Plot. Repair 1 and 4. This fire was largely electrical put out by same parties. Fire did not spread outside of Radar plot.
12. Stack covers, base of stack. Repair 1 and 4. CO2 by Repair 1 would not put out this canvas but extinguished flames enough to double ignited portion of canvas underneath until Repair 4 arrived with hose.

Paint on stack did not ignite.
13. #2 quad. 40mm. Repair 1. Repair 1 easily extinguished the canvas and ammunition covers with water and hands.
14. A-206L. Bedding bag extinguished by Repair 4A. Splinter shield from hit in starboard side quickly extinguished.
15. A-207L. Repair 4A. Clothes in 2 lockers, 1 bedding bag in peacoat locker ignited from splinter from hit in starboard side. Quickly extinguished.
16. Mount #7. Report received in Damage Control that upper handling room was on fire. Repair 1 investigated; upper handling room was found flooded. No fire was found in mount. A piece of wood from deck was burning outside, also parts of a life jacket and the mount bloomers. These were quickly extinguished. This mount received a direct hit and first report was probably result.
17. Mount #3. Several reports were received at different times that mount #3 was on fire. No fire was discovered near this mount though at each report some small burning fragments would be found on deck.
18. Starboard flag bag. This fire was extinguished largely by signal force. Water was carried in helmets from superstructure after CO2 was not effective.
19. Flag Office. Fire reported to Damage Control. Repair 1 found no flames but considerable smoke from hot cases.
20. 20mm mount, after starboard wing of bridge. Life jacket was burning, quickly extinguished by Repair 1A.
21. Main battery radar transmitter room. Life jacket of Lieut(jg) Krepps, deceased, burning. Extinguished by decontamination personnel with water from deck in helmet.
22. Bloomers, Turret III ignited by hit in barbette. Extinguished by decontamination party.

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23. Numerous small fires on both first and second superstructure decks on both sides mainly burning pieces of life jackets. These re-occured several times. Water would quickly extinguish but some small piece would flame up again.

The final damage from fire was negligible.

STABILITY

During the action, the ship listed very gradually about 3/4° to starboard. This list was corrected by the shifting of fuel oil.

No voids were flooded.

All holes in the shell plating above the waterline were plugged with mattresses, pillows, clothing, etc. Wooden plugs were driven into smaller holes. After daylight following the action, welding of plates over accessible holes was started and continued until rough weather prevented further work. Electric portable drain pumps were rigged and the water entering the hull was at all times under control. Water accumulating from ruptured lines in the foremast structure was kept out of the wardroom, where the wounded were gathered and treated, by forming a bucket brigade from men in the decontamination party. Soundings were promptly received from all stations when requested during the action. Following the action, repair parties cleared wreckage, acted as stretcher bearers and made a careful check as to the extent of damage.

(f) Casualties to personnel.

The Senior Medical Officer's report to the Chief of the Bureau of Medicine and Surgery, copy of which is attached as Enclosure F, lists in detail all casualties.

The first aid facilities were adequate and the performance of non-medical personnel was very gratifying. All personnel, medical and non-medical, had been carefully indoctrinated, by instruction rather than drill, as to what could be expected. There was little confusion and minimum of direction was required.

Two unforeseen conditions were encountered. There were many burns due to the rupture of the line supplying steam to the whistle and siren. The absence of an outside access to Sky Control prevented prompt evacuation of wounded from that area.

6. Commendations.

A board met to consider recommendations for awards and commendations and rendered the following:-

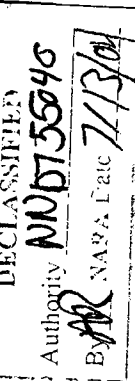
Recommended for a Navy Cross:

Commander A. E. Uehlinger, U.S. Navy.

For extraordinary heroism in action above the call of duty. During the night engagement with Japanese naval units off Savo Island on November 15, 1942, apparently faced with certain death by scalding, burning, and suffocation, he refused to abandon his station. His coolness and fearlessness in the face of great danger steadied the remaining personnel to such an extent that Batt II remained efficiently manned and ready for action throughout the battle.

Hodgen Othello Patrick, 341-91-03, Ylc, USN.

For extraordinary heroism in action above the call of duty as talker in Sky Forward, during the night engagement with Japanese naval units off Savo Island on November 15, 1942. Although severely wounded himself, he took charge in Sky Control after all officers had been killed, kept the Commanding Officer informed of the



existing situation on his station, cared for the wounded and generally acted with good judgement and intrepidity until relieved several hours later.

Redomned for a Silver Star Medal:

Commander I. W. Gorton, (SC), U.S.N.

For distinguished service in action, Commander I. W. Gorton, U.S.N., when his station was badly damaged by enemy fire, remained in the face of what was apparently certain death, rendering assistance to the wounded, and keeping the Executive Officer informed as to the extent of damage. His calm and courageous action served as an inspiration to the men under him, helping make possible the continued operations of Batt. II.

James Monroe Boone, C.B.M., U.S.N. - 273-75-57

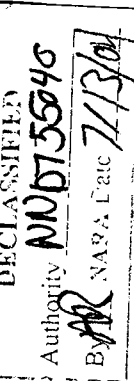
For gallantry and intrepidity in action as a member of a topside repair party on the U.S.S. SOUTH DAKOTA in the night action with Japanese naval units off Savo Island on November 15, 1942. Chief boatswains mate BOONE, USN., by his thorough knowledge, fearlessness, leadership and devotion to duty made possible the rapid control of all topside fires.

ANDERSON, Fred Allen	S2c	634-11-33	V6, USNR
GATLIEFF, David Bruce	RM3c	295-73-95	USN
JONES, Merle Jerome	SM2c	295-78-74	USN
KEJWAN, Michael William	Y1c	700-07-71	V6, USNR
PAGE, William Tom	S1c	250-57-22	USN
ROBERTSON, Henry Matthews	QM3c	402-97-63	01, USNR
RYAN, Robert James	S2c	300-76-10	USN
WENKE, Bernard James	S2c	608-08-20	V6, USNR

For courage and calm action over and above the line of duty during the night engagement with Japanese naval units off Savo Island on November 15, 1942, Fred Allen Anderson, S2c, USNR, David Bruce Gatlief, RM3c, USN, Merle Jerome Jones, SM3c, USN, Michael William Kejwan, Y1c, USNR, William Tom Page, S1c, USN, Henry Matthews Robertson, QM3c, USNR, Robert James Ryan, S2c, USN, and Bernard James Wenke, S2c, USNR. Stationed in Batt II when the surrounding area was hit and believing that unless the station was immediately abandoned that certain death by scalding, burning and suffocation was only a matter of a few minutes, they nevertheless calmly remained at their duties and kept the station ready for action until relieved from general quarters, thereby proving themselves a credit to their ship, the Navy, and the country they are privileged to serve.

DELANEY, Joseph	F3c	650-34-18	USNR
KNAAK, Stanley Roy	F1c	633-88-99	USNR
JAROSEVICH, Stephen	S2c	650-33-46	USNR

For courageous action over and above line of duty during the night engagement with Japanese naval units off Savo Island on November 15, 1942, Joseph Delaney, F3c, USNR, Stephen Jarosevich, S2c, USNR, and Stanley Roy Knaak, F1c, USNR, by their coolness, quick thinking and positive actions in extinguishing a fire caused by a direct hit in the forward 1.1" ammunition clipping room, they prevented a serious



explosion with the loss of many lives and have proved themselves to be a credit to their ship, the Navy, and the country they are privileged to serve.

ROGERS, John Raymond S2c 612-15-56 USNR
For distinguished service in and above the line of duty during the night engagement with Japanese naval units off Savo Island on November 15, 1942. Wounded himself, with dead and dying around him, he acted with gallantry and cool courage, caring for the wounded and obtaining medical assistance until long after the action had ceased.

7. Lessons learned and recommendations.

(a) Gunnery.

In view of the natural difficulties encountered during night action in restricted waters including gun flash, frequent changes in the fire control set up imposed by multiplicity of targets and radical ship maneuvers to avoid torpedoes, noise and shock of gun fire and hits, power failures and poor visibility through conning tower and fire control tower slits, the problem of target designation and target selection was made extremely difficult.

The turrets were able to keep trained on the targets at all times up to their limit of train in spite of the rapid maneuvers of the ship. At one time, during a lull, fire control directors were used to search for the WASHINGTON in order to orient ourselves with her and avoid opening fire on her. Aircraft flares might have helped in getting a better visual knowledge of the situation, but general illumination is not considered to be desirable in view of the advantage we possess in our radar. An officer stationed aloft with direct communication to the Gunnery Officer would have been a great aid in designating new targets for the main battery, and in clarifying the tactical situation. Sky control officers were fully occupied in the control of the five inch battery up until the time that station was hit and the control officers killed.

Radar plot was effective until that station was destroyed. A ships track and target position tracks were maintained in radar plot and the information was relayed to Conn, chart house

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and fire control. This was, of course, of inestimable value to the Gunnery Officer, but with all the distractions enumerated above, the application of the information in the latter stages of the engagement was particularly difficult. It is considered absolutely essential for engagements of this type, many of which may be expected in the future, that plan position indicators be installed in flag plot, conning tower and fire control tower. The Admiral, the Captain and the Gunnery Officer would then be able to visualize the entire set-up at all times permitting new targets to be selected in advance. A tremendous volume of oral communications, with the possibility of errors in transmission, would be eliminated.

Radar ranging and spotting are reliable, accurate and effective. Main battery director radars were reduced in efficiency when hand train was resorted to. It cannot be too strongly emphasized that reliance and confidence must be placed in radars for night action. Radar should be the primary method of control. Illumination should be used only as a last resort in the event radar is disabled. The use of artificial targets during training periods fails to develop the trust and confidence necessary. During training, large pips obtained on splashes obliterate the small target pip. When firing at a ship, this is not true. There was never any doubt in the radar operators' mind as to the location of our splashes with respect to the target. A well trained operator can spot accurately without the use of spotting marker strips on the face of the radar screen. The width of the notch automatically gives him an accurate measure.

During the action, at least three salvos were fired from director three in the fire control tower with fire control in auxiliary. Difficulty was had in getting ranges from other stations. Due to the ease and rapidity with which this director can be used and its comparative invulnerability, it is particularly well adapted to night firing. However, no means are available in the fire control tower to obtain independent ranges. It is strongly desired that a fire control radar be installed on this director. A small antennae could easily be mounted on the spotting glass.

It is imperative that IFF be installed in all our ships. Such installation during this action would have been of inestimable value. With a larger number of our ships engaged, friendly identification by IFF would have been of even greater importance. If possible this IFF should operate at the radio frequency employed by FC and FD radars so that fire control radar can distinguish between friendly and enemy targets. The delay incident to relaying the required information from radar plot may prove costly.

No specific comments are included here concerning the 5" battery. This battery was effectively and efficiently handled, opening fire quickly and maintaining rapid and accurate fire on selected targets. Starshell illumination was not used during the last part of the second phase. Sky forward was put out of commission and control effectively taken over by secondary battery plot. Due to the fact that most of the sky forward control officers and men were killed, no specific discussion can be attempted. Machine guns were not used.

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THE LESSONS LEARNED MAY BE SUMMARIZED AS FOLLOWS:

1. Target designation:-

As was anticipated, with only two simple night training practices since commissioning, the fighting of a night engagement presented many difficulties in fire control, target designation and target identification. An officer with direct communication should be stationed aloft to aid the Gunnery Officer in target designation for the main battery. The present partial installation of target designation for the main battery is not considered to be of any value for night engagements.

2. Target identification:- IFF should be installed in all ships without delay.

3. Fire control installations:-

Considered excellent and flexible. Power failures presented numerous difficulties which delayed the main battery in getting into action at the beginning of the last phase.

4. Ship maneuvers:-

Interfered to some extent with fire control, but did not seriously reduce effective gun fire.

5. Search radar:-

Was extremely effective prior to and during the engagement until radar plot was destroyed. The installation of a PPI in flag conn, ship conn and fire control is considered to be vitally important.

6. Fire control radar:-

Was of inestimable value eliminating the necessity for illumination and providing 100% effective spots reliable at any range encountered. It is believed that accurate spots can be obtained at any range at which the target pip can be seen on the screen. It is considered essential that a fire control radar be installed on director three.

7. Armor:-

Fire control and conning tower have definitely proven their worth. Further agitation for the removal of this weight is definitely suspended. Control stations behind this armor should be used much more frequently. Too much stress in the past has been laid on the space restrictions at these stations. Had these stations not been utilized during this engagement, control and conn personnel would probably have been largely destroyed.

8. Blindness:-

Due to gun flash can be reduced by the installation of main battery firing buzzers in ship's conn and flag conn.

(b) Naviagation.

Remarks under gunnery regarding tactics, IFF, blindness, armor, target designation, and super-abundance of unimportant communications are repeated. The following additional remarks should be considered:

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By: NARA EAC 7/13/01

The value of fighting lights is doubtful. The globes and light bulbs are easily shattered, rendering the whole installation useless for the purpose intended. Proper employment of TBS and IFF will fill the need for proper identification of friendly forces.

Poor visibility made station keeping the most pressing and engrossing concern of the commanding officer at conn. Once the order is given to "commence firing" the fire control officer and the executive officer should decide on most appropriate targets. This delegation of authority had been doctrine in the case of air attack. Allocation of certain functions in the choice of targets must be part of ship's doctrine to relieve the commanding officer of matters not pertaining directly to his placing the ship in the most favorable position with respect to our own and enemy forces. The value of a radar PPI in the conning tower under these circumstances is immeasurable.

The difficulty of making up this report is due to a lack of adequate records, and the destruction of records made in radar plot and Batt. 2. In the future, additional observers will be used.

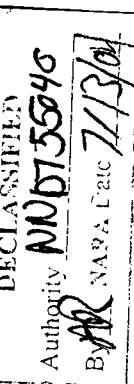
(c) Hull.

The following observations are considered worthy of special mention:

- (1) All time spent in the removal of paint and linoleum returns 1,000 percent dividends.
- (2) Flame retardant bedding bags are a good investment.
- (3) Rescue breathing apparatus is effective only about twenty-five minutes instead of the estimated hour.
- (4) Kapok life jackets, even though flame retarded as ours were, are the greatest source of fire hazard. Smoldering jackets should be thrown over the side.
- (5) Machine gun crews and other surplus personnel should not be sent under cover, in the superstructure or passageways, where damage may be expected to result in blocking repair parties proceeding to scenes of fire or damage.
- (6) Water should be kept up to fire plugs on all decks as was done on this ship. The fire main was divided into four sections and no loss of pressure occurred with the loss of plugs or risers.

(d) Communications.

The duplication of radio direction finders in the 100 to 1500 kilocycle band is unnecessary. The installation of a high frequency direction finder was requested of and refused by the Bureau of Ships. Had this ship been equipped with a radio direction finder to cover the 2,000-3,000 kcs. band, Japanese transmissions could have been located much earlier and would have been utilized to our advantage. The value of a Japanese interpreter under these circumstances, as well as during the action on October 26th, should not be disregarded. The enemy utilizes much voice and coming as it does just prior to action much valuable information is denied our forces. There may be a real use for our loyal Japanese speaking people. One such interpreter assigned to a ship in a task force would be of great help.

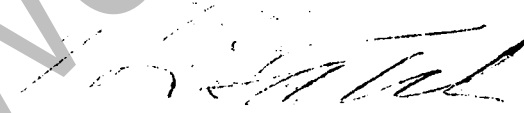


TBS communications are stressed more and more as a primary means of communication between ships in the same task force. Provisions should be made to carry a standby TBS transmitter which can be immediately put into service when the other fails. The additional weight and wiring could be easily compensated by the removal of one of the other transmitters so infrequently used under prevailing conditions of radio silence.

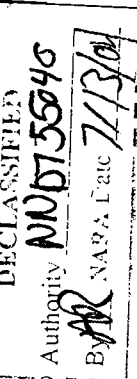
Information regarding enemy frequencies, as listed in PAC 70, is no longer considered correct. Corrections should be made and information should be disseminated to the fighting forces as rapidly as possible. This information, together with the services of a Japanese interpreter, should prove of great value in every engagement with the enemy.

As soon as practicable one complete set of spare modulation, indicator, receiver, etc. units should be made available for each type of fire control radar equipment carried on board. The ease with which these units can be replaced will reduce to a minimum the ineffective periods when casualties occur in these fire control installations.

The trust and faith in the search radar equipment is amazing. After this ship lost both SG and SC equipment, the psychological effect on the officers and crew was most depressing. The absence of this gear gave all hands a feeling of being blindfolded. Our inability to detect approaching enemy planes and surface ships gave all hands a most helpless feeling which was alleviated, in part only, by inclement weather preventing the enemy from seeing us during our retirement.


T.L. GATCH.

Copies: Cominch, U.S. Fleet (2) Advance.
Cincpac (2) Advance.
Comsopac (2) Advance.
U.S.S. WASHINGTON (2)
U.S.S. NORTH CAROLINA (2)
COMBATSHIPS, Pacfor. (2)
Six - with original.
Combatdiv 4 (6)



U.S.S. SOUTH DAKOTA

HULL DAMAGE.

FIREMAIN

The fire main was in four sections with Fire and Flushing pumps 2, 3, 4, and 5 in B-1, B-2, B-3, and B-4 respectively on the line. All fire plugs had water to them.

A. Section 1.

1. Damage.

- (a) A 5' section of 4" riser in B-103L between deck level of second superstructure and "T" 1' below overhead of second superstructure shot away and riddled with shrapnel, cutting off water to fire plug 02-86-1, 02-86-2 and 03-79.
- (b) A 4' section of 2 1/2" cross connection in B-103L between "T" and flange 1' below overhead of second superstructure shot away and riddled with shrapnel cutting off water to riser cutouts 02-79 and fire plug 03-79.

2. Repairs.

- (a) Ran jumper in B-103L from cutout 1-82-2 on first superstructure to "T" on second superstructure.
- (b) Ran jumper from "T" to elbow on second superstructure.

B. Section 2 - No casualties.

C. Section 3 - No casualties.

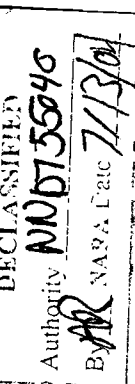
D. Section 4.

1. Damage.

- (a) One shrapnel hole in 2 1/2" line just above fire plug 2-119-1 in C-303L.
- (b) Fire plug 1-132-2 and 1-132-4 shot away on main deck aft.

2. Repairs.

- (a) 2 1/2" pipe leading from fire plug 2-119-1 in C-303L removed at "T" in galley and bottom end of "T" blanked off decommissioning fire plug, 2-119-1.
- (b) Fire plug 1-132-4 blanked off.
- (c) Fire plug 2-119-1 removed and used at 1-132-2.



A list of damage follows:

Forward inboard side 3/8" S.T.S. splinter shield of 40 MM quad 1 blown inboard, plating buckled, base of shield broken away from margin strake of wood deck frame. All ready ammunition racks inside shield torn and distorted beyond repair. Entire 40 MM quad and fittings wrecked. Unserviceable. 10 lb. steel deck plating in circular enclosure of 40 MM quad 1 badly dished and buckled between longitudinal and transverse frames. After section of splinter shield of 40 MM quad 1 blown outboard and aft. Battle telephone box bent and distorted and torn from blast shield. Unserviceable.

Section of wood deck planking and steel deck approximately 9' transversal and 15' longitudinal between frames 72 and 76 starboard 1st superstructure deck badly dished to a depth of approximately 4".

20 MM gun gear locker torn from bulkhead, welded seams broken, plating distorted. Doors and hinges distorted. Unserviceable.

Access ladder from 1st superstructure deck to Chief of Staff's cabin torn and distorted beyond repair. Watertight door 02-74-3 torn from hinges, twisted and distorted beyond repair. Hinges torn out of frame. Hole 3" in diameter on right side forward of frame.

Watertight door 01-70-2 access from 1st superstructure deck to B-0105A (20 and 40 MM gun repair locker) badly distorted hinges broken, gasket retainer strip torn. Door unserviceable.

20 MM mount, sector 1 group 4 gun 1, frame 76, 1st superstructure deck starboard, protection shield braces distorted. Ready service box for 20 MM ammunition stowage badly torn and distorted. Unserviceable.

Frame and expanded metal cover for hot case net on 5" mount #1 torn and broken, expanded metal blown out and overboard.

Control sprinkling valve 01-79-1. Metal box enclosure covering valve broken and distorted beyond repair.

Watertight closure cover 1-58 for ventilation and exhaust 3-54. Hinges broken and distorted. Quick closing device completely broken. Unserviceable.

Quick closing watertight access door 1-53-1, access from main deck (COD booth) to A-101L. Quick closing mechanism, dogs, braces and gears completely broken. Inside protective shield blown overboard. Unserviceable.

Sector 1, group 2, guns 1, 2 and 3, 3/8" S.T.S. blast shield and gun installations blown inboard and torn loose from deck fittings. Welded deck fastenings for above broken loose from deck at base of shield. Blast shield stiffeners on 20 MM ready service ammunition box torn loose from shield.

Watertight closure cover 1-51 from vent system 2-51 torn and distorted. Quick closing mechanism broken beyond repair.

Side rails of access ladder, frame 58 starboard, from main deck to first superstructure deck bent and distorted.

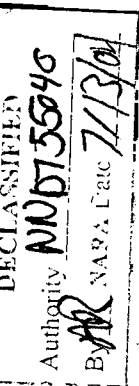
17 flat bar braces for protector shields on sector 1 group 2 guns 1, 2 and 3. 20 MM guns badly bent and distorted.

Supporting brackets to hot gun case for above 20 MM gun #2 torn from fastening on splinter shield.

Watertight access door 1-58 leading from main deck to A-103A, deck gear locker, badly buckled and distorted beyond repair.

Battle telephone box on main deck frame 58 starboard badly bent and distorted.

ENCLOSURE " D "



Quick closing door 1-62-5 badly bent and distorted. Quick closing mechanism and dogs broken beyond repair.

NOTE:- Above items are believed to be result of blast and concussion of turrets 1 and 2 firing a maximum to starboard.

Shell struck starboard side plate #1 turret approximately parallel passed through the 25 man life raft* and exploded on the starboard sight port. Hinge on sight port bent and distorted. Closing device on port inoperative.

7 strakes on wood deck planking badly splintered and gouged by shrapnel between frames 44 and 48, main deck 4' to 6' inboard of shell plate.

8" shell struck upper edge of bulkhead plating of spray shield and Flag Bridge, frame 72 $\frac{1}{2}$ starboard, resulting in following damage:

* Total of five (5) balsa wood life rafts destroyed, about the ship.

- (a) Shrapnel blew downward penetrating wood and steel deck on 1st superstructure deck starboard between frames 66 and 72, approximately 45 holes ranging in size from 1/2" to 5".
- (b) Cover of watertight hatch 01-70-1. 11 small holes ranging in size from 1/2" to 1 1/2".
- (c) 2 steel ladder rungs on longitudinal bulkhead frame 70 starboard, cut and broken.
- (d) Light lock bracket to door 01-72 leading from 1st superstructure to Captain's cabin broken off.

Senior staff officer's cabin. Starboard longitudinal structural bulkhead and stiffeners between frames 72 and 74 starboard, buckled inboard approximately 3" over entire area. 2 aluminum battle ports, frame 72-73, broken beyond repair. Metal book case 4' x 6' doors, hinges and shelving distorted beyond economical repair. Supply ventilation duct torn and crushed. Metal joiner door and frame to linen locker broken. Metal joiner door access from passageway to stateroom bent and distorted beyond repair. 3' x 6' panel of after inboard divisional bulkhead blown out. Metal joiner door and frame to Admiral's cabin blown out. Metal joiner door access to first superstructure deck blown out. Metal joiner door and frame between cabin and stateroom blown out. Transverse aluminum panel bulkhead between cabin and stateroom blown out. Transverse aluminum panel bulkhead between cabin and bath blown out. Senior staff officer's stateroom. Metal joiner door with full length mirror distorted and buckled. Confidential safe blown from bulkhead. Metal book case distorted and blown from bulkhead. 6' section of 1 $\frac{1}{2}$ " voice tube leading to flag plot broken off at joint. Door of 1 wardrobe locker torn from hinges. Longitudinal aluminum panel divisional bulkhead between stateroom and bath blown out. Aluminum panel divisional bulkhead between bath and passage completely blown out. Drainage valves to wash basin broken.

RRSR 0205. Salvo of 3 projectiles (believed to be 6") entered longitudinal bulkhead at frame 84, approximately 3' above 2nd superstructure deck resulting in the following damage:

Entire transverse aluminum divisional bulkhead between RRSR 0205 and locker used for stowage of forms completely blown out.

Inboard longitudinal structural bulkhead has hole 30" in diameter approximately 3' above deck level.

Secretary desk completely demolished.

Confidential safe demolished.

Wash basin and cabinet demolished.

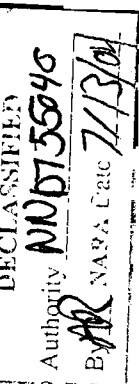
Overhead supporting deck beam frame 82 torn open 4" x 6".

Ventilation duct demolished.

Hot and cold water piping and drains completely demolished.

Metal joiner door to passage demolished.

Metal enclosure and binding strips of berth torn and distorted by shrapnel.



10" hole approximately 32" above deck plate in outboard longitudinal structural bulkhead.

Unassigned compartment under starboard signal flag bag used for stowage of Executive Officer's Office forms.

All shelving completely demolished by shrapnel.

Bottom of starboard signal bag blown open at seam approximately 4' x 2'.

3 outboard bulkhead stiffeners on after transverse bulkhead pierced by shell fragments, holes approximately 3" in diameter.

Welded seams torn.

Outboard longitudinal bulkhead pierced by shell fragments approximately 8" in diameter, frame 85, 4' above deck level.

30" hole in inboard longitudinal structural bulkhead.

2" drainage line on inboard and outboard ends of signal bag torn out.

Deck plating dished over 3 square feet area, 8' inboard of longitudinal structural bulkhead.

Non-watertight door pierced by shrapnel. Unserviceable.

6" aluminum ventilation ducts demolished.

Ventilation terminal of supply ventilation system demolished.

WRSR 0207.

Frame 87½, battle port 2" hole.

Metal joiner door to passageway distorted.

Door frame pierced by shrapnel.

After transverse structural bulkhead pierced by 5 fragments ranging from 3/4" to 3" in diameter.

Passage B-0201L.

Door frame of metal joiner door access to B-103L pierced by fragments.

Drain line for upper level staterooms pierced by 3 fragments approximately 5' above deck level.

Exhaust ventilation system duct torn and blown open.

2" fresh water supply lines to 2nd and 3rd superstructure deck staterooms severed 2' above deck level.

WRSR 0204.

Metal joiner door and frame blown out and distorted. Inboard longitudinal panel bulkhead blown out.

WRSR 0206.

Inboard longitudinal panel bulkhead demolished.

Metal joiner door and frame broken.

B-103L.

2nd superstructure deck. 25" x 8" T bars bulkhead stiffeners on starboard longitudinal structural bulkhead at frame 83 severed 2' above deck level.

Access ladder and fittings to 3rd superstructure deck demolished.

Hot water tank (supply to system on 2nd superstructure deck) demolished.

Cold fresh water supply to battle dressing station demolished.

Topping lift and big falls for starboard boat crane damaged.

Three 4 inch fuel hoses damaged. #1 MFB damaged. (26 small shrapnel holes).

Electrical booster pump and all connections completely demolished.

Steam line supply and drain to hot water tank completely demolished.

Longitudinal centerline structural bulkhead demolished at frame 84.

Ventilation supply and exhaust lines severed and demolished at frame 82½ port.

1 1/4" compressed air line severed at frame 82.

First aid box and supports demolished.

4" fire main riser demolished.

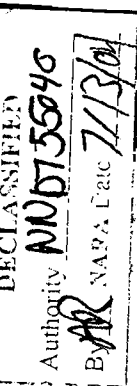
Intake and exhaust ventilation ducts demolished, starboard.

Port longitudinal structural 30 pound bulkhead and stiffeners completely demolished.

Seams of fresh water gravity tanks leaking.

Stanchions on access ladder cut and broken.

Combing of access hatch to first superstructure deck bent and distorted.



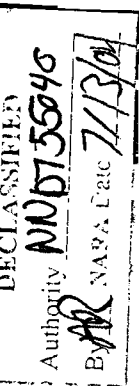
FRSR 0202. Metal joiner door and frame demolished.
Large ship's confidential safe demolished.
Secretarial desk demolished.
Built in metal berth demolished.
Wardrobe locker demolished.
Chiffonier locker demolished.
Sheathing and insulation torn out over entire area.
Wash basin and connections torn from fastenings.
Shaving cabinet broken.

FLAG BRIDGE LEVEL

Watertight access door 03-79, access to B-0305E, badly distorted.
6' section of exhaust vent duct, compartment B-0305E, completely blown out.
1 section vent duct leading to preheater supply system 03-79-1, blown out.
Sides, drawers and fastenings of signal bridge desk torn and distorted beyond repair.
Hole 12" x 36" in outboard corner of starboard flag bag.
3" fragment hole 3' above bottom starboard end.
Light metal tissue blown out.
5' section of 4" drain line severed at frame 83, starboard.
2" drain line pierced and severed by shrapnel, frames 72 and 73 starboard.
1 1/2" voice tube, starboard alidade to conn, severed at frame 73.
6' square of wind and spray shield and stiffeners at frame 73 starboard demolished by salvo.
1/4" S.T.S. splinter shield around starboard 40 MM director at frame 74 demolished.
40MM director demolished.
5 square feet areas of wood deck planking and margin steakes splintered and broken. Steel deck plating beneath wood deck in this area penetrated by several pieces of shrapnel.
1 1/2" S.T.S. armored signal shelter bulkhead starboard, gouged to a depth of 3/4" over a 3" circular area.
Watertight access door, access from signal bridge to signal shelter frame 71 starboard, pierced in 6 places by shrapnel. Holes ranging from 3/4" to 4" to 4". 3/8" heat treated glass panel blown out.
3 36" x 42" heat treated glass windows broken. Raising and lowering mechanisms and enclosures broken and distorted. Unserviceable. Frame 68 starboard.
Metal joiner door leading from signal shelter access to flag plot blown inward and distorted. Frame 72, centerline.
Hood for starboard signal light blown from fastenings and broken.
Doors to signal locker desk broken and distorted. Frame 79, centerline.

NAVIGATION BRIDGE LEVEL

Wet and dry bulb thermometer casing demolished, frame 77 stbd.
4" hole in wind and spray shield 3' above deck level at frame 75, starboard.
1 6" hole, 1 3" hole and 1 4" hole in deck from shrapnel at frame 75 starboard.
4" hole in spray shield 3' above deck at frame 75, starboard.
1 3" and 1 2" shrapnel hole in longitudinal structural bulkhead 1' above deck level at frame 75, starboard.
1 6" shrapnel hole in circular base of starboard alidade.
1 section 3' by 5' in spray shield between frames 70 and 71 starboard blown inboard and distorted.
Swivel base seat (mess stool) on spray shield at frame 72, starboard demolished.
Watertight door access from pilot house to catwalk bent and distorted at frame 71, starboard.
Pipe rail and fittings supporting canvas windbreaker around catwalk port and starboard broken and unserviceable. Canvas windbreaker blown out.



20" x 36" heat treated glass panel in watertight access doors leading from catwalk to Navigation Bridge, port, blown out.

10" x 20" hole in deck overhead in upper section of longitudinal structural bulkhead at frame port. (Chart House.)

6" x 8" panel of aluminum dividing bulkhead between Captain's sea cabin and Navigator's sea cabin demolished.

1 section of longitudinal panel bulkhead in navigation washroom and water closet blown out.

1 section of 4" ventilation duct broken off at the joint near washroom and water closet.

Natural exhaust ventilation closure for chart house to atmosphere at frame 74 port blown out.

1 4" shrapnel hole in wind and spray shield 4' above the deck level at frame 74 port.

HOUSETOP LEVEL

Shrapnel hole 2" x 5" in 1/4" S.T.S. splinter shield 1' above deck level at frame 69, starboard.

1 18" hole in 1/4" S.T.S. splinter shield at frame 73 starboard 2' above deck level.

1 36" x 48" hole in 1/4" S.T.S. splinter shield at frame 74 port 3' above deck level.

1 20 MM ready service ammunition box and fastenings at frame 72 starboard completely demolished.

1 20 MM ready service ammunition box at frame 74 port demolished.

1 shell hole 10" x 16" through 1 1/2" S.T.S. circular foundation plate of #1 5" director at frame 73 starboard.

1 12" shell hole through 1 1/2" S.T.S. circular base of #1 5" battery director at frame 73 port, 6" above bottom level.

12" section, 25 pound bounding angle broken at base of #1 5" battery director at frame 73 port.

Floor plates demolished inside base of #1 5" battery director.

Center column structure and bounding angle of #1 5" battery director completely demolished.

2 small fragment holes at base of watertight casing around radio direction finder #1.

10" hole in S.T.S. structural bulkhead in 1.1" magazine and clipping room 6' above deck level, frame 78 starboard.

18"-24" shell hole in S.T.S. structural bulkhead in 1.1" magazine and clipping room 6' above deck level, frame 78 port.

1-6", 3-7" and 1-4" shrapnel hole through 3/8" S.T.S. splinter shield around 1.1" quad #4, frame 78 port.

6 shrapnel holes in steel deck plating within circular area of 1.1" quad #4. Average size of holes 4".

Battle telephone box for quad 4 demolished.

1.1" CLIPPING ROOM, B-0502M

3' section of longitudinal centerline deck overhead beam 6" x 12" severed and demolished, frame 78-79.

All sheathing and insulation demolished.

5 sections of magazine stowage racks cut, distorted and unserviceable.

3 sections of 3/4" pipe sprinkling system severed and demolished.

Bulkhead stiffeners and beam knee severed and demolished.

Bounding angle and deck overhead blown open. All rivets sheared.

1 1/2" shrapnel hole in flametight access door.

Vent ducts, supply for B-0601L crushed.

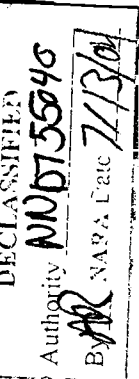
Vent ducts crushed and broken frame 81 port, B-103L.

1 2' square section of insulation sheathing+crn from longitudinal bulkhead at frame 82 port.

6TH LEVEL

1 10" shell hole through structural bulkhead and bulkhead stiffener, 6' above deck level, frame 82 starboard.

Web of I beam frame 83 twisted and distorted 6' inboard of starboard side.



10" x 8" hole in centerline structural bulkhead, frame 83. Arch reinforcement twisted and broken.

Radar gas tube fractured.

Access ladder from 06 to 07 level demolished.

Vent duct exhaust peppered with small bits of shrapnel.

Coil spring tensioning device and brackets for watertight armored hatch 07-84-1 demolished.

Natural vent exhaust duct through forward transversal structural bulkhead in #1 radar storeroom demolished.

Supply vent duct demolished in B-103L, 06 level.

Access ladder from 06 to -7 level demolished

Tensioning device and brackets for watertight armored hatch 07-84-2 twisted and inoperative.

3/4" circulating cooling water line pressure gage and booster pump severed and demolished.

W.R.S.R. 0601. 2 1" holes in steel battle port.

10" hole 6' above deck level at frame 83 port.

1 bulkhead stiffener 8" torn and distorted throughout entire length.

Shrapnel hole 10" x 3" at deck level.

Insulation and sheathing on port longitudinal bulkhead entirely demolished.

07 LEVEL

11 shrapnel holes ranging in size from 3" to 7" through forward transverse structural bulkhead, frame 81, from deck level to overhead, port.

1 bulkhead stiffener fractured frame 81 port, 3' inboard of centerline. (R.D.F. #2).

1 8" hole through after side of structural bulkhead, frame 87.

1 10" hole through both sides housing tube for radar mast, frame 87.

Lowering wire for foremast damaged.

1 4" hole through bulkhead plating at frame 86 port.

Bulkhead stiffener frame 86 punctured, twisted and distorted.

5 panels of sheathing and insulation torn out.

2-3" shrapnel hole at base of bulkhead just above bounding angles, frame 87 starboard.

3 shrapnel holes through medical locker. Doors distorted beyond repair.

2" shrapnel hole through back of wash basin.

08 LEVEL

Watertight door and door frame 08-82-1 blown out.

1-10" and 1-12" shell hole through starboard longitudinal bulkhead at frame 83. (25 pound S.T.S. plate).

3 bulkhead stiffeners and supporting beams severed, twisted. Frames 83-84 starboard.

1-36", 1-8" and 1-6" shell and shrapnel holes through longitudinal centerline bulkhead.

1-4" x 6" shrapnel hole in deck plating, frame 84 centerline.

1-30" x 60" hole in transverse structural bulkhead #84.

4 bulkhead stiffeners and supporting beams on transverse bulkhead severed.

All sheathing and insulation blown out.

Forward starboard yardarm and supporting brace cut.

1-18" hole through port longitudinal bulkhead at frame 84.

4" hole through watertight door at frame 84 starboard.

1-8" hole in structural bulkhead, starboard, 5' above deck level, radar plot.

1 section of structural bulkhead 8' x 10' blown out between frames 85-87, port, radar plot.

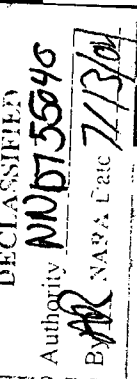
All sheathing, overhead and bulkheads torn by shrapnel, radar plot.

Exhaust vent duct demolished, radar plot.

Access door passage B-103L and radar plot missing.

Starboard access ladder from 8th to 9th level demolished.

Entire longitudinal section of wind and spray shield and stiffeners between frame 84 and 87 demolished.



Catwalk around Secondary Conn., 2-4" shrapnel holes through deck plating, centerline.

9' protective casing around radio direction finder installation under overhang of catwalk completely demolished.

Mark 45 1.1" director demolished.

3-3" shrapnel holes through after section wind and spray shield, starboard.

2-3" shrapnel holes through stem.

09 LEVEL

Access ladder from 09 to 010 level demolished.

12" x 18" hole in deck plating starboard frame 84.

18" x 36" hole through deck plating frame 84 port. (Search Radar Transmitter Room).

010 LEVEL

Lower supporting arm of starboard yard arm severed.

3" hole in deck plating of search light platform, frame 83 starboard.

6" hole upward in deck plating frame 83 port, searchlight platform.

6" bulge in bulkhead 7' above deck level, frame 83 starboard.

011 LEVEL

Sky Control - 10" shell hole through 1 $\frac{1}{4}$ " S.T.S. bulkhead frame 83 starboard.

10" hole through 1 $\frac{1}{4}$ " S.T.S. bulkhead frame 83 $\frac{1}{2}$ port.

12" battle cover and battle port frame broken at frame 83 starboard.

All insulation blown out.

2-3" shrapnel holes through protection casing center column of forward main battery director.

3/8" S.T.S. splinter shield around port target indicator is demolished.

3 swivel seats and brackets demolished.

Forward centerline section of wind and spray shield around search radar demolished. 3-17" holes.

S.C. Radar platform completely demolished.

AH-219L - FORWARD ROOM CIGAR MESS STORES

Exhaust system H2-33-1 - 16' ventilation duct blown out, seams torn, all metal distorted

Gaping hole 8' through 30 lb. plate extending from main deck to 6' below main deck.

One section 4' x 8' of main deck blown upward 4".

One transverse 6" x 14" I beam and beam knee severed and blown out from shell plating starboard to a point 8' inboard.

All intake and exhaust ventilation ducts demolished.

All expanded metal partitions, doors, boundary angles, shelving and bias demolished.

One 3" x 4" shrapnel hole through longitudinal I beam deck support frame 29 $\frac{1}{2}$.

One section of deck plating 4' x 6' between frames 29 and 31 starboard badly distorted.

A-206L

16" x 24" hole.

14" x 14" hole.

10" x 12" hole.

All above in shell plating 5' above deck level between frames 29 and 31 starboard.

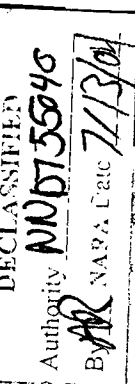
Top seam shell plating 1' above deck level frame 30 $\frac{1}{2}$ blown open, rivets sheared.

3 36" x 7' panels of sheathing and insulation blown out.

1 $\frac{1}{4}$ " fuel ventilation line severed at shell plating.

A-207L

6' of lapped seam blown open and all rivets sheared 1' above deck be



3' of lapped seam blown open and rivets sheared 8' above deck.
Upper section of watertight bulkhead 31 blown open leaving hole 9'
x 6' from starboard shell plating to centerline.
2 4" x 5" T bar bulkhead stiffeners severed 9' above deck plating.
Intake 36" circular ventilation duct system demolished.
One 12' section of exhaust ventilation duct and watertight closure
demolished.
18' of 8" supply ventilation duct and brackets demolished.
4 panels 12' x 12' insulation and sheathing demolished.
One 8' section of 3/8" x 6" 10" I beam supporting deck overhead,
severed twisted, and distorted between frames 31 and 33.
One 12' section of 2" fuel oil air escape piping twisted and broken.
Pea coat locker demolished.
Longitudinal I beam supporting deck overhead fractured between frames
32 and 33.
8" x 14" hole starboard longitudinal 10' inboard blower room, bulkhead
stiffener fractured 4' above deck level.
4 triple units type "C" clothing lockers blown open from shrapnel.

STACK HOOD AT FRAME 88

Forward face - Shell hole 12" x 30" part of shell continued through
4 partitions inside hood and out port side. All holes approximately 15"
in diameter. Part of shell broke off after entering hood and went through
1 partition aft - hole about 23" x 14".

Shell entered 2" from starboard side hood 4' above 07 super deck.
There were also other holes in forward face of hood of the following
sizes: 6" diameter, 6" x 18", 2 holes 3" x 6", 4 holes about 2" in diameter,
2 holes approximately 3" x 8". Also 10 dents about 1" deep by 6" in
diameter in forward face of hood.

Stack cover jack-stay on forward side carried away.

Deck in vicinity of frame 87 and 88, 07 superstructure deck has 9 dents.

S.B. Director #3

Radar elevation gear carried away. 2 legs of base carried away on
left hand side.

S.B. Director #2

Elevation gear supporting stand has five legs carried away on right
side. Lower edge of elevation arm has 4" x 6" hole on right side.
Elevating gear case on right side has hole 2" x 6". Radar antenna has
entire lower edge carried away 1' 0" high. Remainder of antenna has 15
small holes and bad gash at top.

Starboard side of stack between fram 90 and 96 - 4 holes approximately
4" x 6" between 05 and 07 superstructures.

Forward steam exhaust escape frame 96 between 06 and 07 superstruc-
ture. 8 holes approximately 2" in diameter.

20 mm gun shield on 05 superstructure deck at frame 92 - 1 hole 2"
in diameter near base.

Drainage line from Director #3 platform cut at frame 89 on the 04
level - hole 2" in diameter.

Athwartships bulkhead at frame 90, 02 level - 5 holes approximately
2" in diameter. Also 5 bad dents.

Ready service box 20mm frame 91, 02 level - 5 holes approximately
2" x 8".

Ready service box 20mm frame 92, 02 level - has hole 4" x 8".

Deck has 2 bad dents at frame 95 near stack - 02 level.

#1 Motor whaleboat has 15 shrapnel holes.

Boat Repair Shop at frame 97-99, 02 deck - 2 holes in overhead 1 3"
in diameter and 1 4" x 10".

Heater steam lines and ventilation supply duct B-0203E - cut by
shrapnel, 4 holes.

Nitrogen antenna lines T-12, T-13, and T-9 cut by shrapnel.

Radio transmitter trunk T-7-H - 2 shrapnel holes 2" in diameter.

Bulkhead 97 - 4 shrapnel holes in insulation and sheathing. 4 shrapnel
dents in bulkhead.

W.T. Door 02-98 has 2 holes through door approximately 2" in diameter.

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Natural exhaust B-0205E at frame 100 has 2 2" holes. Watertight door 02-100 to B-0205E (Battery Charging Room) has 3 holes, one 2" x 8", one 2" x 1" near top of door; one 3" x 4" forward edge near hinge.

B-0205E - hole in deck approximately 1" in diameter at frame 100. Steam line pierced by shrapnel embeded in lagging or steam line, frame 100.

Dents in deck and bulkhead and overhead in compartment B-0205E.

Brass drain line for O3 deck has hole approximately 1" in diameter at frame 100.

Starboard Boat Crane

Cables cut by shrapnel, cables completely ruined. Cross braces of crane cut in six places, and three others dented.

Lower inboard arm has hole 2" x 4", approximately in middle of arm. Upper inboard arm has hole 3" x 4" in same section. Two vertical braces have 1" diameter holes. One ladder rung carried away.

Shrapnel hole 3" x 4" in top of 20mm ready service box on O2 level at frame 97. 20 mm ready service box at frame 98 has dented top.

O3 Super-deck Starboard Side

Hole in deck at frame 97 starboard side next to stack. Hole at frame 99.

After leg of main mast has three bad cuts, all about 2" x 3" cuts. Under side of 1.1" director platform aft has one wire cut.

O1 Super-deck Starboard Side.

Heat shield on 20mm ready service box at frame 93 torn away. Watertight door 01-93 warped badly. Ventilation supply B--011A has two welded seams split through three feet.

Watertight door 01-99-3 has 5 holes approximately 1½" in diameter. Armored door 01-95 has gasket retaining edge bent and cut. Ventilation supply 4-100 has approximately 20 holes, bent and twisted.

Wooden deck at frame 100 torn up and splintered in an area 3' x 4'. Deck (01) at frame 100 has 5 holes of the following sizes: 10" x 12"; 2" x 3", 2 holes 2" in diameter, 3" x 4", one hole frame 101 3" x 1½".

Right hand side of Mount #7 - Deck has been dished in 2" over a 20" area. Center of area 2' from after edge and 1½' from lower edge of plate. Seam out after right corner of mount opened up 3/8". Shows signs of intense heat. Armor is 2" thick.

WRSR 0117 - Has holes in starboard panel bulkhead. One safe pierced by shrapnel on both sides. 2 holes in O2 deck at frame 98 inboard. Holes 1" x 2" and 3/4" in diameter. Ventilation supply duct split in J.O. Bunkroom by heater 88-R.

B-0105L - Frame 100, one wire cut. Two sets of lockers pierced and torn by shrapnel. One hole in supply system trunk 4-100. Insulation sheeting torn by shrapnel.

Supply Office - Shell struck top of fuel oil and ballast tank, B-39F, at frame 87 starboard (6½" hole). Shell exploded inside tank blowing hole in compartment B-207L (hole 10"x18") piercing 2 lockers and gear locker.

One 5" hole through skin of ship at frame 113, 3' above waterline.

One 1¼" hole in ship's side at frame 72 starboard, 5 feet above waterline. Dented in over a 6' diameter area.

One 8" hole in ship's side at frame 82 starboard, 8 feet above waterline.

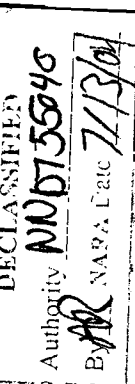
B-4 ventilator supply pierced by shrapnel, 1 hole in O1 deck and 4" hole starboard side, frame 107, 5' above main deck.

All sound powered telephones at frame 107 and all cables between frame 106 and 108 are cut and broken by shrapnel.

20MM ready service box at frame 108 has one hole in the side. 20MM gun shield at frame 109 has 3" hole, 10' above deck, also several dents.

W.T. door 1-108 has fifteen holes 2" and smaller. Gasket cut.

Air escape for C-1F and C-31F at frame 109 pierced by shrapnel 5', 7' and 9' above main deck.



Many dents in bulkhead between frames 105 and 110 starboard.
Seams on empty case chute on quad 7 split by blast.
Deck radio antenna at frame 110 starboard broken by shrapnel.
Three life rafts at frame 110 cut by shrapnel.
Uptake exhaust lip at frame 110 has two 2" shrapnel holes.
Empty case bin of quad 7 has one small hole and seven dents.
Deck and starboard side of turret #3 between frames 121 and 130, 8' out from turret, are bent down next to the turret. Hole beside turret in this area is 3' wide, 10' long. Center of hole about frame 123.
Hatch coaming on hatch 1-122 has a semi-circular cut on both sides 15" deep.

Ventilation intake for system 3-126 has screen blown in.

Deck between frames 110 and 134 are splintered by shrapnel.

Starboard side #3 barbette has plating dished in 1½" over area 15" in diameter aft of seam. Circular cracks extending over this area. Vertical cracks extend aft 8' around barbette.

Davit holder beside hatch 1-128 bent and twisted.

Hatch coaming around hatch 1-128 is torn, twisted and cut by many pieces of shrapnel.

Gas seal on turret #3 torn and twisted for 30' on front of turret.

Gun 3 slide pitted by shrapnel.

Two ladders torn off turret base.

Ammunition boxes aft of turret 3 and by starboard 20 MM gun shields pierced by shrapnel. All bent and twisted.

Midships splinter shield has 4 holes 4" in diameter. One hole 12" x 14" and one hole 10" x 10".

Fire plug 1-133-2 sheared off at plug.

30 caliber airplane ready ammunition box at frame 133 completely wrecked.

Starboard aft 20 MM gun wrecked. Spare barrel holders torn off shield.

Ammunition boxes torn and twisted.

Recovery boom and vertical brace cut by shrapnel.

40 MM deck plates badly warped and buckled, port and starboard.

Hatch 1-139-1 and scuttle badly warped and twisted.

CATAPULTS

Starboard catapult cable cut by shrapnel. Shrapnel holes through catwalk. Aviation fuel hose rack torn off.

Shrapnel holes through catwalk. All tool boxes bent and need replacing. Cable cut by shrapnel. Shives damaged by shrapnel. Track badly damaged. Ready service boxes damaged. Magazine damaged by shrapnel.

SECOND DECK

Watertight door 2-136-1, hole 2" by 1", 6" from bottom. 1" hole 2' from top through sheeting.

Frame 136 - hit by shrapnel. 2 bad dents beside door in "I" beam.

3" x 1" hole 2' to port of door 2-136-1, 3" from deck. Bad dent 1' above "I" beam, dented just above deck. Bad dent 4" in diameter 1" deep beside door, 3' above deck, wire cable cut above door next to overhead. Also hole 4" x 1½".

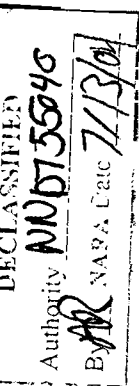
Ventilation supply C-322L pierced by shrapnel. 2 holes in line with door., 6" x 10" in diameter. Another small hole in duct 6' above deck.

2 bad dents in supporting stanchion at frame 134 starboard, at edge of scullery.

Air deflector broken by small piece of shrapnel, starboard side aft of galley.

10" x 2" hole after starboard corner of scullery just above deck. Steam line through starboard side of compartment has several holes in lagging, also may be in the lines.

Stanchion at frame 131, starboard side of scullery has two dents 1½' above deck. 4 holes in scullery, 19" by 3", 2 1" holes and 1 ½" by 4" hole.



4 steam lines carried away, 2 temporarily repaired. Large hole starboard side of door 2-129-1, 26" by 38". 11 other holes at this side of door in same area, 10' x 4' from deck.

Watertight door 2-129-1 bent and cut. Damaged beyond repair.

Door frame 2-129-1 bent. Bulkhead and 1 side of door frame dished aft 6". 2 holes near deck 3' starboard of door, 12" x 4", 10" x 3".

Inboard table leg in scullery at frame 129 cut and bent.

2 steam lines by coffee urn damaged. Coffee urn has 2 small holes 1" x 1/2" and also many small holes.

Lagging on large steam lines on overhead torn at frame 128.

2 "I" frames starboard side of door 2-129-1 badly cut and dented.

One pushed against bulkhead.

Air escape for C-917V bent and distorted, almost flattened in some spots.

Lagging on large steam lines on overhead torn at frame 128.

3 "I" frames on port side of door. One slightly dented, one badly dented and bent to port side. The other badly cut and bent.

Several electrical cables cut just above deck at frame 129 and cable cut 7' above deck and above hatch 2-128. 1 steam and one fresh water line cut in this area.

4" x 2" and 1" diameter holes in 440 power panel (2-128-1). Hole in back of panel and dent in bulkhead. 2 electrical cables cut beside hole.

20' of exhaust C-414T carried away. The remainder pierced by numerous pieces of shrapnel.

Exhaust system 3-126, 10' carried away between deck and overhead beside turret. Remainder badly bent and cut, 15' area.

Supply duct C-201L pierced in 2 places. One hole 10" x 12". One hole 2" in diameter.

Frame 127. Motor blown off one power shell hoist. Hoist half way off track. Roller track badly bent and out of line.

20' of mess table around barbette missing. Also angle iron supports missing.

Hatch 2-128-2 retaining edge for gasket badly distorted and cut on starboard side.

Curved "I" beam around barbette. 10' carried away from frame 123 to frame 125. Distorted and bent and cut 20' forward and 10' aft.

Armored deck bent down 4' into compartment. Hole beside barbette 2 1/2' x 12'.

Bounding bar cut and bent 20'. (1" x 3").

Two (2) deguassing cables badly cut and torn.

Drain line beside hatch 1-122 cur in two places by shrapnel.

Wire cage pierced in 10 places around ladder. Switch box on cage broken.

Supply vent C-603E, 1 1" deameter hole. Supply vent to C-609E badly bent, also ripped near overhead.

Firemain above plug 2-119-1 pierced by shrapnel. Hole 2" x 1".

Nozzle and bracket bent by shrapnel.

Hole in galley bulkhead at frame 119, 7' above deck, hole 6" x 4".

Rivets on deck at seam 6' from barbette leak.

Frame 114, centerline 3rd deck, 1 electrical cable cut by fire.

Frame 113, overhead starboard side hatch 3-113-2 - 2 electrical cables cut by fire.

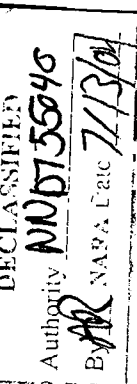
Circular cracks area 6" below main deck, frame 122.

Waterseal above main deck dented and pulled away from rivets 4' at frame 125 starboard side of barbette.

Athwartship "I" beams - frame 123 and 126, beam damaged 8' from barbette at frame 125, bent and twisted 4' x 6' more slightly bent down from deck.

Vent motor at frame 121 damaged.

Scuttlebutt damaged at frame 122, several holes in top. Small pieces shrapnel hit motor and compressor below.



FLOODED TANKS

The following tanks were flooded.

A-11F	B-31F
A-21F	B-39F
A-23F	B-71F
A-33F	B-75V
A-39V	B-77F
A-11F	B-79F
B-23F	

DIVER'S REPORT

Starboard side.

Six feet down seam opened up from frame 46 to frame 58.

Fifteen feet down seam opened up from frame 43 to frame 58.

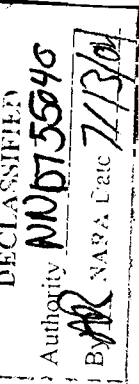
Twenty-five feet down seam opened up from frame 52 to frame 93. Slight leaks between frame 93 and 117. Seam opened up about 2 feet in length at frame 118.

Bad opening in seam on bottom at frame 56.

Hole 12" in diameter at frame 46, 2 1/2" down.

- 13 -

ENCLOSURE "D"



GUNNERY DAMAGE.

1. Main Battery.

(a) Director #1.

Electric cables cut to the following:-

Pointer's firing key.

Salvo light.

Battle order indicator.

Range transmitter.

Ships course input to director.

Train designation transmission.

"Bearing on" light.

2JD8 telephone.

Selector switch - spot one.

Radar inoperative. Screen damaged, frame cracked, transmission unit shot away.

(b) Director #2.

Brake solenoid burned out, causing loss of power.

"Bearing on" light inoperative.

(c) Turret One.

Rollers and rollerpath show excessive gouging.

(d) Turret #3.

Received hit by 14" projectile in armor about 17" from top of barbette starboard side. Turret was trained in this direction. Projectile was deflected downward through deck. Fragments caused damage as follows:-

Gas seal and water shed disrupted.

Sleeve of right gun badly scarred and gouged.

Sleeve was removed to make gun serviceable.

Gun hoop received shallow indentation through sleeve.

Center gun sleeve gouged but still serviceable.

Must be removed when available.

Right and center guns - securing strips for bucklers damaged.

2. Secondary Battery.

(a) Sky forward (air defense station).

This station received three direct hits, two 8" and one 6", none of which exploded.

Damage as follows:-

JY selector switch inoperative.

20MC and 21MC speakers destroyed.

Five telephone cable out to Director #1.

Director tube pierced cutting 23 cables.

Battle ports carried away.

Electric heater destroyed.

Port target designator damaged.

5JP selector switch damaged.

Numerous cables cut, lookout seats damaged.

(b) Secondary Battery Group #1.

Secondary Battery Director #1 was struck by an 8" projectile which entered foundation about one foot from deck, starboard side, passing through center column and out port side. All cables were out. Roller path believed to be completely out of alignment.

Instruments were damaged as follows:-

Train receiver regulator pierced by fragments.

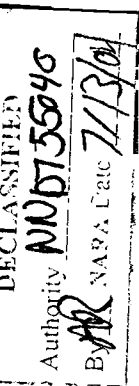
Train controller unit - bent out of shape.

Cross-level controller unit - bent out of shape.

Cross-level gear unit - struck by fragments.

Possible internal damage.

Gas seal torn by fragments.



- (c) Secondary Battery Group #2.
 Secondary Battery Director #2.
 Struck glancing blow by projectile, damage as follows:-
 Radar supports badly damaged.
 Holding down bolts turn out.
 Coaxial cables out.

Mount #2 was struck by 6.1" projectile which had passed through superstructure from starboard side. This projectile did not explode. The projectile struck the door to the left hot case shute, then up to rear plate of shield. The rear armor plate is pushed in and broken loose from top, sides and bottom plates. The angle beam is cut. Oil reservoir tank of left shell hoist punctured.

- (d) Secondary Battery Group #3.
 Secondary Battery Director #3 was hit by fragments of projectile, damage was as follows:-
 End windows shattered on rangefinder,
 Radar damaged as in Director #2.
 Mount #5 - Fragments gouged left gun, not serious, Armor sprung and minor structural damage inside mount from glancing hit.
 Mount #7 - Numerous gouges in both guns from fragments. Upper handling room door damaged.

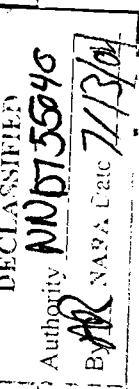
- (e) Secondary Battery Group #4.
 Mount #8 - 4" hole in periscope and periscope cover. Gas escaped. Optics not damaged.

3. Machine Gun Battery.

- (a) 40mm Quad #1.
 Blast from turret #2 damaged mount beyond repair. Requires replacement.
- (b) 1"1 Quad #4 and Director.
 Mark 45 director received direct hit through center of director. (Three cheers)
 Quad #4 was struck by fragments which exploded ready service ammunition in shield. Mount and shield destroyed, should be replaced.

- (c) 1"1 Clipping room 3 and 4.
 One and possibly two projectiles passed through forward end of clipping room, causing extensive structural damage. Sprinkling lines were out and 75 clips destroyed.

- (d) 20mm Guns and clipping rooms.
 Damage to 20mm battery is as follows:-
- | | |
|---------------------------|-----------------------------|
| Magazines | 32 destroyed & 83 damaged |
| Ready service boxes | 13 destroyed & 10 damaged |
| Mounts | 2 destroyed |
| Gun covers | 15 destroyed |
| Shoulder bar assemblies | 9 destroyed |
| Sight assemblies | 8 destroyed |
| Cartridge collecting bags | 13 destroyed |
| Complete gun | 1 destroyed |
| Barrels | 1 destroyed |
| Cradles | 1 destroyed |
| Tool kit | 5 lost |
| Barrel spring housing | 1 lost |
| Spare part boxes | 4 lost |
| Loading frames | 6 lost |
| Splinter shields | 2 damaged |
| Spare barrel holders | 13 need rewelding to bulwar |
| Telephone jack boxes | 5 need rewelding to bulwar |
| Sight rings (fwd) | 2 lost |
| Mark 51 directors | 1 destroyed |



4. Catapults.

Starboard catapult requires new saddle and cable. Spares are aboard.
Port catapult struck by projectile should be replaced as inboard track is bent beyond repair. Cable and ~~sheave~~ sheave destroyed also.

5. Planes.

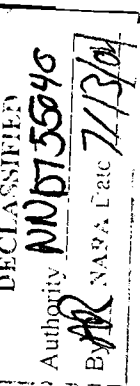
All planes were destroyed. Two planes handling trucks destroyed.

6. Searchlights.

Searchlight #3 - pierced by projectile passing through lens, shutter and reflector.

Searchlight #5 - pierced by fragment passing through elevation unit.

ENCLOSURE " D "

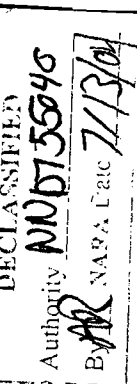


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ENGINEERING DAMAGE:

INTERIOR COMMUNICATION CIRCUITS.

<u>Circuit</u>	<u>Damaged cable.</u>	<u>Length</u>
M	C-M10 MHFA30	325 ft.
1MB-2MB	C-MB MHEA30	310 ft.
L&N	C-LN15 MHFA22	30 ft.
L.B.	C-LB10 DHFA-14	350 ft.
W	C-W13 DMFA4	55 ft.
W	C-W15 DMFA4	10 ft.
W	C-W14 DMFA4	55 ft.
W	C-W16 DMFA4	10 ft.
HD & HE	C-HD12 MHFA14	70 ft.
HD & HE	C-HD13 MHFA14	70 ft.
LD-C 20MC28	FHFA-3	10 ft.
C20MC27	TTHFA30	75 ft.
C 20MC25	DHFA3	75 ft.
C 20MC26	TTHFA30	20 ft.
C 20MC24	FHFA3	10 ft.
C 20MC2	DHFA3	200 ft.
C 20MC6	TTHFA40	200 ft.
LD-C 21MC31	FHFA3	10 ft.
21MC15	DHGA3	120 ft.
21MC12	TTHFA40	220 ft.
E-203	DHFA3	50 ft.
E-208	MHFA7	50 ft.
E-277	DHFA3	25 ft.
E-237	DHFA3	40 ft.
E-276	DHFA3	25 ft.
E-278	DHFA3	25 ft.
E-419	MHFA7	25 ft.
E-421	MHFA7	35 ft.
G-JA276	TTHFA10	25 ft.
G-JA277	TTHFA3	40 ft.
G-JA278	TT HFA3	40 ft.
G-JF15	TTHFA3	20 ft.
G-JS12	TTHFA3	35 ft.
G-JA279	TTHFA5	40 ft.
G-JA342	TTHFA3	40 ft.
G-JA315	TTHFA3	15 ft.
G-JA314	TTHFA3	15 ft.
G-JA311	TTHFA5	15 ft.
G-X2JQ	TTHFA3	30 ft.
G-X3JQ	TTHFA3	25 ft.
G-JF17	TTHFA3	25 ft.
JY24	TTHFA3	50 ft.
JA-238	TTHFA3	30 ft.
JA-201	TTHFA3	50 ft.
X19J		
JS-14		
JF-		
C-XJX21	(XJX6 box)	20 ft.
(Box)x19J3	DHFA3	60 ft.
2JY5	DHFA3	100 ft.
5JY		
C-L099	MHFA10	40 ft.
C-L098	MHFA10	40 ft.
C-L0101	MHFA7	40 ft.
C-L0100	MHFA7	50 ft.
C-L096	MHFA7	40 ft.
C-L0107	MHF10	40 ft.
C-L094	MHFA10	40 ft.
C-L095	MHFA10	40 ft.
C-L071	MHFA44	130 ft.
C-L070	MHFA44	140 ft.



CIRCUIT	DAMAGED CABLE	LENGTH
C-1C84	MHFA10	60 ft.
C-1C86	LHFA7	75 ft.
LD-111C 206	FEFA3	55 ft.
LD-117MC 24	GICF7	45 ft.
LD-117MC 23	KCS2	45 ft.
LD-111C	Speaker forward of walkway DHFA2	
LD-111C 212	DHFA3	60 ft.
LD-111C 211	DHFA3	40 ft.
LD-CJ 282	TTHFA3	85 ft.
LD-CJ 281	TTHFA5	60 ft.
LD-CJ	Phone 711 not on print. Recheck.	
LD-CJ	Phone 0203 check on No. and Ld.	
LD-CJ 323	GICF2	40 ft.

This list is not complete a much more extensive survey must be made when time is available. It was impossible to identify some of the circuits as tags are missing and leads must be traced.

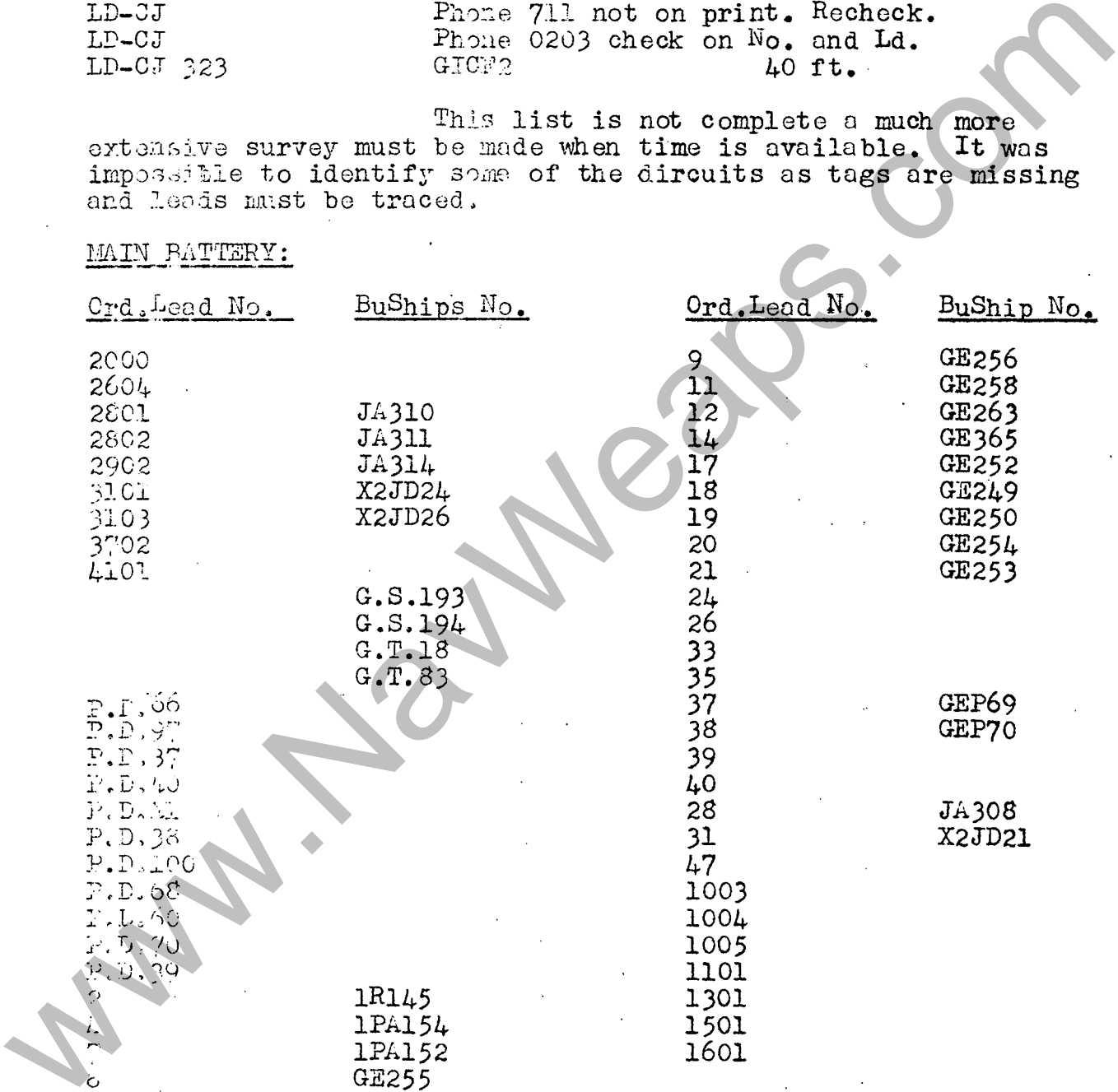
MAIN BATTERY:

<u>Ord. Lead No.</u>	<u>BuShips No.</u>	<u>Ord. Lead No.</u>	<u>BuShip No.</u>
2000		9	GE256
2604		11	GE258
2801	JA310	12	GE263
2802	JA311	14	GE365
2902	JA314	17	GE252
3101	X2JD24	18	GE249
3103	X2JD26	19	GE250
3702		20	GE254
4101		21	GE253
	G.S.193	24	
	G.S.194	26	
	G.T.18	33	
	G.T.83	35	
P.D.86		37	GEP69
P.D.97		38	GEP70
P.D.37		39	
P.D.40		40	
P.D.41		28	JA308
P.D.38		31	X2JD21
P.D.100		47	
P.D.68		1003	
P.L.60		1004	
P.D.70		1005	
P.D.39		1101	
	1R145	1301	
	1PA154	1501	
	1PA152	1601	
	GE255		

SECONDARY BATTERY

<u>Ord. No.</u>	<u>Buship No.</u>	<u>Cable</u>
14	G-GS187	GICF-7
15	G-GS192	GICF-7
16	Spare cable	GICF-14
17	Spare cable	DCP-4
18	G-GS186	GICF-10
19	G-GS191	GICF-10
21	2FE111-G1	DCP-6
22	G-JA255	TPTF-10
23	G-XJP68	TPTF-3
24	C-J328	GICF-2
25	C-17MC24	GICF-7

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 By: [Signature] NARA Date: 7/13/01



SECONDARY BATTERY:

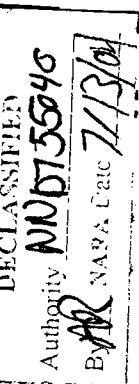
<u>Ord.No.</u>	<u>Buship No.</u>	<u>Cable</u>	<u>Length</u>
26	C-17MC23	MGS-2	
27	G-GS190	G1GF-26	
28	G-GS254	G1CF-14	
29	4GSP1101 to 1103	TGP-9	
	G-GS124	MHFA7	
	G-GS 125	MHFA7	
	G-FS91	MHFA26	
	2-GS92	MHFA26	
	G-JA292	TTHFA10	40 ft.
	G-JA300	TTHFA20	40 ft.
	JP Selector switch	air defense fwd.	punctured.
	CJA242	TTHFA	35 ft.
	G4U25		65 ft.
	G-4U9		20 ft.
	C-17MC35	DCP4	50 ft.
	G-X17J23	DCP4	50 ft.
	G-2PA-69	MHFA4	40 ft.
	G-XJP-53	DHFA3	50 ft.
	GJPl83	TTHFA-3	50 ft.
		(Flexible cable)	
1	FE551	TOP-40	
2	2-GSP1101 to 1103	TCP-9	
3	C-CS197	G1CF-10	
4	5-GSP1101 to 1103	T.C.P.-9	
5	G-GS195	G1CF-19	
6	G-GS253	G1CF-14	
7	1-FE551	TCP-4	
8	G-2PA98	G1CF-19	
9	G-GS189	G1CF-37	
10	G-GS196	G1CF-37	
11	G-GS194	G1CF-37	
12	G-GS193	G1CF*37	
13	G-GS188	G1CF-10	

The following equipment was damaged or destroyed by gun fire:

- 3 - Teletalk amplifiers, 20-21 MC.
 - 3 - Gyro repeaters.
 - 3 - Gyro bearing pelorus stands.
 - 1 - D.R.T. table.
 - 6 - Cease firing gongs and horns.
 - 1 - HD-HE transmitter (damage unknown).
 - 2 - Starting panels, #1 Sec.Bat. director (damage not determined)
- The depression stops on #3 turret were moved out of position by shell fire, therefore the D.S. circuit in #3 turret was made inoperative.

POWER

- Power panel 2-128-1 - Holes in facecover.
- Power panel 2-155-2 - starting and heating outlets #2 shattered.
- Power panel 2-117-2 - Portable hoist #6, cable cut.
- Power panel 2-128-1 - Feeder from galley load center pinched and armor cut.
- Portable amm. hoist #3 - Flying metal hit hoist and completely wrecked controller, smashing in end of hoist.
- Portable amm. hoist #2 - End bell on gear rotor and destroyed.
- Vent system 2-121- Bed plate and connection block sheared off.
- F-532 - Armor cut.
- 4-FB-473 - Port hoist outlet box damaged and cable cut.
- 8-FB-745 - Foremast winch, direction circuits, control circuit and supply circuit cut.
- 14-FB-745 - Exhaust blower - supply circuit severed.



DEGAUSSING GEAR

S coil shattered. (D-S-14, D-S-19, D-S-20)
(D-S-5, D-S-7, D-S-8)

Connection box in Compt. C-201, Fr.127 shot
away.

M coil - This coil is open but unable to locate where it is broken
Believe it is on 3rd deck fwd, in voids outside of armor.

LIGHTINGFeeder

5FB-125-1	5FB-125-B2	5FB-125-C5	6F-109-A1
5FB-125-A1	5FB-125-B3	5FB-125-C6	6F-109-A2
5FB-125-A2	5FB-125-C1	5FB-125-C7	6F-109-A6
5FB-125-A3	5FB-125-C2	5FB-125-C8	1F-125-F1
5FB-125-A4	5FB-125-O3	5FB-125-C9	3FB-125
5FB-125-B1	5FB-125-C4	5FB-125-C10	3FB-125-A2
3FB-125-A5	2F-125-D7	2F-125-1	3F-125-F1B
3FB-125-A6	2F-125-D1	2F-125-G	3F-125-F1C
3FB-125-D1	2F-125-D2	4FB-125-A4	3F-125-F1D
3FB-125-C	2F-125-D3	2FB-125-D10	3F-123-B
3FB-125-J	2F-125-D4	3F-125-F2A	1FB-123-A
2F-125-D	2F-125-D5	3F-125-F1A	1FE-130-A7D

Blinker light cable, port yard arm.

Blinker control, signal bridge.

The following material was destroyed:

1 6X box, W.T.	6 Double S&R (bakelite)
1 6X box, N.W.T.	12 Overhead fixtures.
1 Signal key, W.T.	6 Snap switches (10 amp)
1 Windshield wiper, complete.	Truck lights.
	Globes for recognition lights.

MISCELLANEOUS ELECTRICAL DAMAGE

Scuttlebutt - Compt. C-201, stbd. Feeder No. 11-F-538 - End bell
broken. Pressure switch shattered.

- #1 MNB - Cable cut by shrapnel. Preheater damaged.
- #3 36" searchlight - Badly damaged. Small or large piece of
shrapnel entered rear door and went out
front.
- #4 36" searchlight - Dome glass broken, iris shutter beat, minor
damages.
- #1 24" searchlight - Dome glass broken, shutter blown in.
- #2 24" searchlight - Dome glass broken, shutter blown in. A few
shrapnel hits.
- #3 24" searchlight - Shrapnel hole in drum. Cables cut. Rectifie
for this light hit by shrapnel.
- #4 24" searchlight - hit by shrapnel.

MISCELLANEOUS DAMAGE IN ENGINEER DEPARTMENT

- #1 M.W.B. - Air filter, governor (fuel pump).
- Siren and whistle: Broken spring on 150 DV Operating lever.
Drain from 150 DV whistle, 4th level.
Separator drain, 150 DV whistle - 4th level.
Steam and drains, 575 DV - 3rd level.
150 DV whistle steam and drains, 3rd level.
150 DV whistle steam and drain, B-201L.
- Constant steam: Admiral's heater (FW), steam, drains and heater.
Line 1st. superstructure dk up to Adm. FW heater.
Steam to port coffee kettle Fr.129 stbd.
Line drain (const. & int) Fr.129S., Compt.C-201.

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 By: NARA Eric 7/13/01

Intermittent steam:

2nd.super dk, boat shop, heater No. 78R coils,
drain, steam lines.
2nd super dk - Fr. 81, stbd.
Passageway, B-0201L, port & stbd.
Heater No. 29 - WRSR 0202 - drains.
Steam to heater No. 34R - WRSR 0203
Heater No. 68R - B-102L - steam line.
Heater No. 60R - WRSR 107 - steam line.
Heater No. 56R - WRSR 109 - steam line.
Heater No. 214R- FR. 129 - drains.
Vent heater supply in compt. C-322L broken
in C-201L, Fr. 129.

RADARS:

- (1) SC-1 Radar.
Antenna and mount shot away complete.
Transmitter chassis sprung, wiring deranged. Repairable.
Receiver and indicator, several shrapnel holes,
damaged by fire . Inoperative.
- (2) SG-Radar.
Waveguide ruptured by shell fragments.
Receiver and indicator unit, superficial damage to
case. Operative.
Transmitter undamaged.

