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A.C.B. 0233/44 (3 & 4)

SOUTH-WEST PACIFIC

ANTI-SUBMARINE REPORT

FEBRUARY, MARCH, 1944

File reclassified as:

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ARCHIVE 64

S E C R E T

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A.C.B. 0233/44 (3 & 4)

SOUTH-WEST PACIFIC

ANTI-SUBMARINE REPORT

FEBRUARY, MARCH, 1944

OPEN

ANTI-SUBMARINE
WARFARE DIVISION,
NAVY OFFICE,
MELBOURNE.

ARCHIVE 64

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- 1. Japanese anti-Submarine Measures
- 2. Unloading Japanese Submarine Transports

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FEBRUARY, MARCH, 1944

ANTI-SUBMARINE
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2. TRAINING SHIPS

The R.A.N. escort training vessel "GRAMA" is now operating in the north eastern area and will undertake refresher training under the direction of M.O.A.C. New Guinea.

The U.S.N. training ship "ALABASTER" is also available in the area. U.S.S. "VERUS", a Liberty ship, will probably be converted to a training vessel in the near future.

3. TRAINING SUBMARINES

The U.S. "S" Class submarines have been allocated for A/S training in forward areas. Each submarine will be used for

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SECTION I

COUNTER MEASURES

1. REVIEW FOR FEBRUARY AND MARCH

The decrease in enemy submarine activity which has been evident during the last few months continued in February and March.

There were no reports of attacks on Allied shipping but our aircraft and ships made a number of promising attacks.

During February the main concentration appeared to be along the north eastern coast of New Guinea and the south coast of New Britain. A number of attacks were made on Japanese submarines in the Gasmata area during the month.

There were still indications of enemy activity in the Finschhafen area during March, but the majority of attacks on submarines were made in the Bougainville area while at least one submarine was operating north of New Britain.

2. TRAINING SHIPS

The R.A.N. escort training vessel "ORARA" is now operating in the north eastern area and will undertake refresher training under the direction of N.O.I.C. New Guinea.

The U.S.N. training ship "ALABASTER" is also available in the area. U.S.S. "VENUS", a Liberty ship, will probably be converted to a training vessel in the near future.

3. TRAINING SUBMARINES

Two U.S. "S" Class submarines have been allocated for A/S training in forward areas. Each submarine will be used for

exercises for 21 consecutive days in 28, the remaining seven days being for overhaul.

4. H.M.A. ANTI-SUBMARINE SCHOOL

The following figures show the progress in training that has been made in H.M.A.S. "RUSHCUTTER" since the outbreak of war.

A total of 305 officers have completed anti-submarine courses prior to appointments as A/S Control Officers, 106 Fairmile officers have been trained and 122 senior reserve officers have been given "short" courses of from one to three weeks.

About 80 Australian Anti-Submarine officers are serving with the Royal Navy, and this number is being maintained by a replacement system. Some 700 S.D. and H.S.D. ratings have been drafted overseas to R.N. ships.

The following tables show the number of officers and ratings trained.

OFFICERS

	A/S Course				S.R.O. Course		Fairmile
	Aust.	N.Z.	U.S.	French & Dutch	Aust.	N.Z.	
1939	11	-	-	-	-	-	-
1940	71	-	-	-	4	-	-
1941	80	10	-	-	34	1	-
1942	60	-	32	2	29	-	-
1943					39	-	54
	261	10	32	2	121	1	106
	Total	305			Total	122	Total 106

RATINGS

	S.D.I.	H.S.D.		S.D.			
		Aust.	N.Z.	Aust.	N.Z.	U.S.	Dutch
1939	-	-	-	38	-	-	-
1940	-	-	-	224	-	-	-
1941	-	40	3	325	10	-	-
1942	-	92	-	270	-	-	-
1943	7	58	-	297	-	43	12
	7	190	3	1,154	10	43	12
	Total 7	Total 193		Total 1219			

Total, officers and ratings: 1952

5. A/S WEAPON TRAINING

The following notes for the guidance of R.A.N. A/S officers have been prepared by the Commanding Officer, H.M.A.S. "RUSHCUTTER" with the object of clarifying the duties and responsibilities laid down in C.A.F.O. 2585/43.

"It is not the intention that A/S officers shall be responsible for the individual drill of guns' crews, depth charge personnel, Radar operators, Squid crews etc. These are the responsibility of the department to which they belong, e.g. Radar operators will be drilled by the Radar officer. It is, however, the responsibility of the A/S officer to ensure that the officers in charge of individual departments are fully conversant with and cognisant of all the requirements as regards A/S warfare which will be demanded of them.

"The A/S Officer must organize, in conjunction with heads of departments, the best methods of utilising their devices in their particular ship and must arrange for co-ordination exercises designed to cover all A/S warfare conditions.

"The A/S officer should not criticise methods of drill of other departments. For example, if it takes five minutes to load D.C. throwers, don't tell the officer in charge, D.C. party, that he should do this or that. Inform him that the requirements are that throwers must be reloaded inside, say, 30 seconds, and ask him to endeavour to attain this speed. If you have constructive criticism, give it if you have the opportunity, but remember that it will need TACT. You wouldn't like being told by a Gunnery Officer how to run your A/S department.

"Should no improvement be forthcoming after a reasonable period, point out to your C.O. that you are not satisfied with the fighting efficiency of the D.C. personnel.

"It will be necessary for A/S officers to make themselves fully cognisant of the capabilities of the various devices which are used in A/S warfare and any difficulties in their operation, in order that they may know what to expect of them under certain conditions and thus neither expect too much nor too little of them.

"Remember if you don't use TACT you won't get CO-OPERATION. If you don't get co-operation you won't get EFFICIENCY!"

SECTION II

ENEMY ACTIVITY1. JAPANESE SUBMARINE ACTIVITY - MAPS FOR FEBRUARY, MARCH.

See Appendices at back of book.

2. ANALYSIS OF CONVOYS - FEBRUARY, MARCH.

AREA	No. of Ships		Tonnage	
	February	March	February	March
Thursday Is. - Darwin	10	17	36,080	58,986
Barrier Reef - Brisbane	33 *	*	162,567	*
Brisbane - Sydney	22 *	*	95,534	*
Australia - New Guinea	81	70	443,634	324,389
New Guinea Area	147	278	792,262	1,487,236
Arafura Sea	12	6	53,276	28,429
TOTAL	305	371	1,583,353	1,899,040

* Convoys in this area were discontinued on February 17.

Single escorted ships are included in the above table.

3. JAPANESE SUBMARINE ACTIVITY - GASMATA AREA

There was considerable submarine activity in the area South of Gasmata between 11th and 15th February.

At 1515L February 11 a submarine was sighted by two Beaufighters in position 06 43 S, 150 59 E. It was first seen from six miles away fully surfaced on a course 300° at a speed of 8 to 10 knots. The submarine crash-dived when the aircraft were one mile off and no attack was made.

Subsequently two Beaufighters were sent out to search for the submarine and attack it if sighted. In this case the submarine was sighted at 1823L from a distance of fifteen miles in position 06 55 S, 150 42 E, course 306°, estimated speed 6 knots. When the aircraft had closed to half a mile the submarine crash-dived.

One Beaufighter released two 250-pound bombs 15 to 20 seconds after the submarine submerged, the attack being made from the port quarter. The bombs burst 200 yards ahead and 20 yards to starboard of the estimated track. The other aircraft attacked from astern 30 seconds after the submarine had submerged, bombs falling 150 yards ahead of the estimated track. Both aircraft circled the area for five minutes, but no indication of damage was observed.

At 0729L February 12, aircraft from Kiriwina sighted a submarine in position 06 24 S, 150 28 E, on course 090°. The conning tower was awash when bombs were dropped, but there was no visible result of the attack.

At 2045L February 12, a surface target was picked up by Radar by two P.T. boats on patrol in position five miles, 150° from Gasmata. No attack was made as the P.T. boats mistook the target for a barge which they manoeuvred to attack, the result being that a torpedo attack was not possible when the target was recognised as a submarine which, by then, had submerged. The P.T. boats patrolled the area for some time, but no further sighting was made.

Two Beaufighters were despatched from Kiriwina to search the area south of Gasmata on February 15 for a possible enemy submarine outward bound from Gasmata. At 1221L February 15, a submarine was sighted on the surface from 500 feet at a distance of nine miles in position 06 42 S, 151 10 E. The aircraft manoeuvred to make an attack from astern. As they commenced their run they must have been seen for the submarine crash dived. Each aircraft dropped two bombs, the first bursting 10 yards ahead of the swirl 10 to 15 seconds after the submarine had submerged and the second, five seconds later, 140 yards ahead of the swirl.

Interrogation of the pilots revealed an interesting point. One pilot with experience of attacks on submarines noticed when starting his run-in that there was no wake and the submarine appeared dead in the water. In spite of this it submerged in 20 seconds. As he flew over the target he noticed that there was not the usual V-shaped wake left by the conning tower, nor was there the usual propeller swirl left by a submarine crash diving whilst under way, confirming the fact that it was stopped. The colour of the submarine was black, and it had no visible markings.

Subsequently an aircraft returning from the area in which the attack was made reported sighting an oil slick one mile long, and 100 yards wide in position 06 50 S 151 20 E at 1820L/15. It is considered that the submarine or submarines responsible for the above sightings were probably on supply missions to Gasmata from Rabaul.

SECTION III

NARRATIVES1. A.M.S. SINKS SUBMARINE

The following report of destruction of an enemy submarine has been received from H.M.A.S. "LAUNCESTON".

"At 0202Z on February 11th while in position 17° 23' N 83° 23' E lookouts reported explosions on the leading ship of the port wing of the convoy. The speed of the convoy was then 8 knots and the course 039°. "LAUNCESTON" was on the outside leg of an independent zigzag in screening position D, distant 2,400 yards speed 11 knots. Speed was increased to 14 knots and course altered to close the convoy.

"H.M.I.S. "JUMNA" who was Senior Officer Escort signalled "Observant" and a few minutes later H.M.A.S. "IPSWICH" reported on R/T that she was investigating a contact.

"LAUNCESTON" was then ordered to take up station ahead of the convoy and took up screening position A. About an hour later H.M.I.S. "PATNA" relieved "LAUNCESTON" who was ordered to carry out search scheme No. 1 and subsequently to remain in position of the torpedoed ship.

"LAUNCESTON" patrolled around the area at slow speed, stopping engines at intervals. At 0521Z a contact was obtained, bearing 240° range 1,050 yards; speed of the ship then being 8 knots. The target was brought ahead, and the run-in at 14 knots commenced from 700 yards. During the run-in, the bearing altered very slowly from right to left. The final attacking course was 225°.

"On close approach a small patch of oil was observed, and time to fire was decided by observation of this patch in conjunction with the A/S recorder. Contact was maintained throughout the attack and two charges set to 250 feet were dropped. The depth of water by E/S was 42 fathoms. When the charges were dropped, the contact was on the starboard quarter at a range of approximately 30 yards. Contact was lost when the charges exploded. Contact was then regained and the range opened out for a deliberate attack.

"Approach was made from 1,500 yards at 8 knots, the target bearing 090°. During the approach, the bearing remained constant and, at 700 yards, speed was increased to 12 knots.

Contact was lost at 50 yards, and a pattern of 5 charges dropped at 0547Z.

"Settings used were:- first charge, 350 ft.; throwers 250 ft.; centre charge 150 ft.; final charge 350 ft. After the second attack, much oil and many air bubbles were seen and a patrol was executed around the target at a range of 700 yards, contact being maintained. The oil patch continued to extend, and at 0620Z a run was made with E/S at 5 knots on a course of 260 degrees, a trace being recorded. Samples of oil were taken while passing over the target. The oil was bubbling up freely.

"At 0630Z, S.O. Escort and "IPSWICH" were called by R/T, (ships then being out of V/S range) and informed that the submarine had been destroyed. "JUMNA" and "IPSWICH" returned and made further attacks after "LAUNCESTON" had proceeded over the target at slow speed, dropping calcium flares. At 0746Z S.O. Escort was signalled by V/S "Have taken oil samples, A/S and E/S tracks. Request you confirm". At 0757Z, S.O. Escort replied "Definitely concur, sub."

"At 0802Z, the following signal was received from S.O. Escort, "Intend picking up wounded and rejoining convoy. Take over S.O.O. Do not leave area unless ordered. Good Luck."

"This was followed at 0820Z by a further signal, "Consider "IPSWICH" should return to Vizag for depth charges as soon as possible". "IPSWICH" was instructed accordingly at 0826Z.

Underwater Explosions Heard

"At 0833Z and again at 10002Z, underwater explosions were heard. At neither time were any other ships in the target area.

"Contact was maintained on the target throughout the afternoon, and the target was circled at a range of 1,000 yards at 8 knots. The lifeboats and rafts were instructed to remain near the torpedoed ship. At 0920Z, a tug had the ship in tow and two lifeboats alongside. Two rafts were still drifting, and as there was no sign of a rescue ship, they were closed at 0930Z and 0947Z respectively and nineteen survivors taken on board.

"Contact with the target was then re-established. At 1105Z "IPSWICH" was sighted returning to the target area. At 1120Z a further E/S run was made at 5 knots. The course over the target was 179° and the silhouette clearly showed the fore and aft line of the submarine, with conning tower, resting on the ocean bed. From the E/S trace, (type 761P), the submarine appears to be about 300 feet long, and is possibly one of the Japanese "I" Class.

"At 1130Z a message was received from COMBAY ordering the escorting of the damaged ship into harbour. As "IPSWICH" was obliged to return to harbour to remedy a slight boiler defect, she took over screening duty. Before leaving the area, it was considered advisable to make sure of the target.

"The ship proceeded at "Dead Slow" over the target and the land fix verified. A final run was made at 1150Z using A/S and E/S. The run was commenced at 8 knots on a course of 270 degrees. Speed was increased to 11 knots at a range of 450 yards. Contact was maintained to 50 yards and a five-charge pattern dropped simultaneously with E/S recording. Settings were as in previous attack. The oil patch now covered an area of approximately four square miles.

"The torpedoed ship was then escorted by both ships to an anchorage off the harbour and "LAUNCESTON" proceeded on patrol off Vizagapatam as A/S cover in accordance with COMBAY's orders. "IPSWICH" entered the harbour to remedy the slight boiler trouble previously reported.

"During the night, a patrol was carried out between Vizagapatam and the target area in accordance with COMBAY's instructions.

"At dawn on Saturday February 12, the target was further investigated. Contact was re-estimated and the position again verified by land bearings. There was no alteration. The target was held in close contact and the area thoroughly investigated for signs of wreckage, but none were seen. Fresh traces of oil were, however, apparent. The oil patch now extended over an area of approximately nine square miles.

"At 0350Z, the target was passed over at 9 knots and a single charge set to 350 feet was dropped in an endeavour to raise wreckage. No further charges were used owing to the shortage of supplies. The area was further searched, but only fresh oil and bubbles were seen.

"LAUNCESTON" then proceeded to Vizagapatam to refuel and replenish depth charges before resuming convoy duties.

"On Sunday 13th February, "LAUNCESTON" again proceeded to the target. Contact was established, position verified, and a dan buoy laid in accordance with instructions from COMBAY. The 16th M.T.B. Flotilla then commenced a destructive attack, and "LAUNCESTON" proceeded to rendezvous with C.J. 16.

"One of the survivors from the merchant ship, Able Seaman A. Anthony, O.N. D/JX 253435, a D.E.M.S. rating who was gun platform lookout when the ship was torpedoed, stated that he sighted two torpedo tracks approaching from the port quarter at fairly close range.

Both torpedoes exploded in the vicinity of the engine room. From this, and from the subsequent position of the submarine, it is assumed that, after delivering the attack, the submarine dived under the convoy and remained on the bottom."

2. SUCCESSFUL USE OF CREEPING ATTACK

Although Japanese submarines are thought to have a safe diving depth of not more than about 350 feet, all ships should be familiar with the principles of the creeping attack. A number of German U-boats are known to be operating in the Indian Ocean and it is possible that escorts may encounter these, especially off the west and north west coast of Australia. Further details of the method of carrying out a creeping attack have been included in A.S.C.I.'s.

The following account of the destruction of two U-boats by the Second Support Group has been taken from the Western Approaches Monthly News Bulletin.

"During the night of 5th November the five sloops "STARLING" (Senior Officer), "KITE", "WILDGOOSE", "WOODCOCK" and "MAGPIE" were in line abreast 2½ miles apart, with "TRACKER" one to two miles astern of them, all ships zig-zagging independently. At 0210 on November 6, star shells were seen at the port end of the line and "KITE" came up shortly with the report of a U-boat on the surface ahead of her, detected in the first place by radar at 3,500 yards and later sighted. "TRACKER", escorted by "WILDGOOSE" and "MAGPIE", was ordered to keep clear to the westward, while "STARLING" and "WOODCOCK" proceeded at full speed to join "KITE". Meanwhile, "KITE" had attacked the U-boat three times, though she considered that last attack to have been on an S.B.T. (Submarine Bubble Target).

"At 0304 "STARLING" gained Asdic contact with the U-boat at 800 yards and ran over the top of it losing contact at 600 yards. "This showed me that "KITE's" attacks had driven it to go deep - which, failing an outright kill, suited me well", "STARLING's" Captain said. "The night was very dark, and there seemed no reason to risk losing contact by allowing ships to churn up the water with the wakes and explosions of further attacks. Accordingly I ordered both ships to keep clear of me and "WOODCOCK" to prepare for a "creeping attack" at daylight."

"From 0317 to 0716 "STARLING" jogged along 1500 yards astern of the U-boat going mostly slow on one engine only, "KITE" and "WOODCOCK" remained in close attendance.

"At 0645 I called "WOODCOCK" alongside me at loud hailer range, gave her a few confirmatory verbal instructions and set her off on a 5 knot "creeping attack." She fired a 26 charge pattern commencing at 0716. I would have staked my last penny on a decisive result to that attack. A stream of accurate information from my Asdic team and from the one-metre range-finder directed on "WOODCOCK" enabled me to con the attacker over her target within 2° of bearing and a few yards of range, and "WOODCOCK" herself fired a perfect pattern (depths 500 and 800 feet).

Note: The "creeping" pattern used in this Group is about 400 yards long by 100 yards broad.

"Confirmatory evidence soon appeared. At 0719 "STARLING's" Asdic reported queer "breaking-up" noises. Two explosions were heard at 0733, the second of which was clearly on or near the surface since it was loud to everyone above the upper deck, inaudible on the Asdic and did not mark the recorder. At 0736 "KITE" and "WOODCOCK" started reporting oil and wreckage. At 0747 a headless torpedo was sighted amongst the other flotsam.

"KITE" subsequently reported that from her brief glimpse, the victim seemed very large - either a milch cow or a 1200 ton patrol boat.

U-boat is Heard Transmitting

"At 1103 all four H/F D/F fitted ships detected a U-boat transmitting a message at a range of about 25 miles. "TRACKER" was ordered to fly off an air-search on the bearing, and a Canadian Liberator was also sent to search, but nothing was seen to a depth of 25 miles.

"At 1239 "STARLING", "WILDGOOSE" and "MAGPIE" reduced to 14 knots and commenced zig-zagging together. At 1347 "WILDGOOSE" gained Asdic contact on her port bow and quickly classified it as "submarine". "STARLING" confirmed this at 1355 and the two ships metaphorically rolled up their sleeves while the unlucky "MAGPIE" carried out a square patrol around them.

"As "STARLING" was in the best position I decided to do the preliminary sparring myself and attacked at 1405 with depth settings of 150 and 300 feet. This attack will bear no analysis and was in fact shocking. On the run in the bearing commenced to draw right - which I took to indicate the customary U-boat avoiding action of "hard over" and "full ahead" together. The Boche did nothing of the sort, and I missed him by many yards.

"As a result of the depth charge explosions, "STARLING's" gyro was temporarily upset but "WILDGOOSE" kept the U-boat in an

unshaken grip, and at 1450 "STARLING" set her off on a "creeping attack." She fired at 1502 with depth settings 500 and 700 feet. In the middle of the attack I was told that my gyro was 9° out. "WILDGOOSE" fired only ten charges instead of 22 or 26, and then both ships lost contact.

"Again, however, the Asdic operator reported breaking up noises, and at 1506 an under-water explosion was heard, followed by a spreading pool of oil. Out of the middle of this at 1514 lo! there leapt yet another of these headless and tail-less torpedoes; and soon the sea was covered with abundant further evidence. "STARLING" collected the torpedo, a vast stock of butter, a glove and other bits. Also a bucketfull of human remains. By 1625 the oil had spread out well over a mile in all directions.

"The death of this second U-boat in position 43° 42' N. 42° 08' W. was due firstly to H/F D/F. It is noteworthy that the bearing given by "STARLING" led three ships at one mile apart straight into Asdic contact with the U-boat 45 miles away."

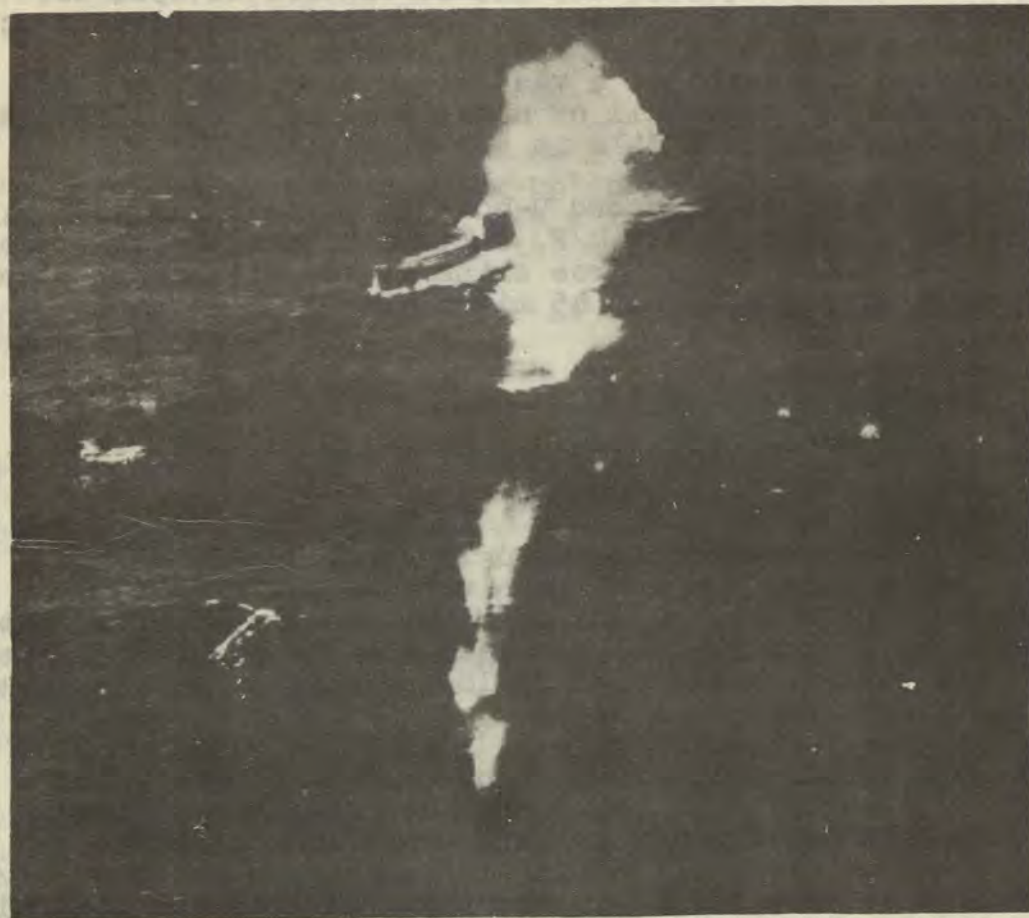
3. DESTRUCTION OF THREE U-BOATS

When "U-185" was commissioned in June, 1942 the Nazi ensign was hoisted upside down and there were to be more "upsets" during her career. Her Captain, August Maus, who was an efficient Commanding Officer, during "U-185's" career that he was aggressive and shrewd. The following story of "U-185's" career has been taken from an Admiralty Anti-Submarine Report.

"On his first patrol in November, 1942, Maus sighted a "Torch" convoy of five large ships, travelling fast and strongly escorted. With great difficulty he manoeuvred into an attacking position. He was at periscope depth and was on the point of giving the order to fire when the boat suddenly lost trim and plunged to a depth of about 250 ft. By the time that she had been brought back to periscope depth the convoy was far away. Maus blamed the loss of trim on the Engineer Officer, telling him in his fury that he had better go home and push the pram.

"The Allied landings in North Africa caused "U-185" to be sent to what was described as "an area off Casablanca." After she had been there for some time, apparently without finding anything to attack, she joined a pack known as "Gruppe Westphal" and pursued a Gibraltar - United States convoy. On the night of the 6th/7th December, a 5,500 ton merchantman was sighted.

"The attack, which was made in a heavy sea was expensive



A perfect straddle with depth charges during an attack by aircraft. The splashes in the foreground are from machinegun fire.

and very nearly abortive. Three torpedoes were fired from the stern tubes. The last torpedo in the tubes was then fired and it found its mark, hitting the ship amidships and sinking her.

"The next morning the group was disbanded and "U-185" returned to the area between Casablanca and Gibraltar. While patrolling here she had several aircraft alarms but was always able to dive in time, except on one occasion when she suffered some slight damage. Targets were few and something went wrong in the only attack which was made - eight torpedoes were fired and a number of explosions were seen, but the ship did not seem any the worse for them.

"U-185" reached Lorient in the first week of the New Year. In the month which she spent there a good deal of work was done in preparation for a patrol in the Caribbean. When the crew came back from leave they found that the basins in the forward and aft compartments had been removed, leaving them without any place to wash, and they had to content themselves with what they called "cat baths".

"U-185" sailed from Lorient on February 8 and five days later made contact with another convoy of troopships. With great difficulty Maus manoeuvred into an attacking position, but again there was a hitch. This time, when the order to fire was given, the torpedoes entirely failed to leave the tubes. The cause of this was not known, but the Captain's wrath now fell upon the First Lieutenant and, when the patrol was ended, the latter was confined to his quarters for seven days.

"An imposing escort awaited "U-185" at Bordeaux. A 10,000-ton Sperrbrecher, three patrol boats and three minesweepers met her off the mouth of the Gironde and, when she secured in harbour, members of the Women's Naval Service presented flowers all round and then the Commanding Officer of the flotilla came on board and shook hands with every member of the crew, a brass band playing the while.

"U-185" is Sabotaged

"For rather more than a month "U-185" remained at Bordeaux, receiving not only a general overhaul, but also the latest anti-aircraft armament. As seems to happen so often nowadays, the start of the U-boat's last patrol was inauspicious. As she passed through the locks in the morning of June 7, the current swung her against the wall causing a forward hydroplane to jam.

"Maus did not think that it was necessary to stop to repair this, but, when he had gone a few miles, a diesel began to smoke and then came to a standstill. This time there was nothing for it but to return to harbour. The U-boat docked and, when the diesel was taken down, dirt and steel splinters were found in the main bearings.

"A few weeks earlier "U-604" had had to put back to Brest to repair a damaged diesel. The saboteurs had put a few dead rats in a fresh water tank but unfortunately the diesel went wrong before these had had time to make their presence known for they were not discovered until after the U-boat had returned to Brest.

"It took two days to repair the damage and in the forenoon of June 9 "U-185", with "U-564" in company, went down the river. They anchored for the night at the mouth of the Gironde and in the morning picked up their escort - the same seven ships which had brought "U-185" in. About 25 miles out, two 750-tonners joined them and, some hours later, a 500-tonner from the 7th Flotilla.

"While they were waiting for her to arrive, a small French sailing vessel approached several times. Once when she came within a hundred yards or so of the U-boat, the Commanding Officer of the "Sperrbrecher" threatened her with his guns unless she cleared off. Maus wanted him to open fire then and there but he refused saying that one did not get decorations for doing things like that.

"U-564" found that she could not dive and, on reporting her plight to Control, was told that a destroyer would be sent out to escort her back to Bordeaux. Maus decided to accompany her to the rendezvous. Next morning two aircraft appeared out of the clouds Maus at once opened fire and obtained hits on one of them. As they flew away, he recognised them to be Focke-Wulfs.

"Later that day another aircraft was sighted. This time there could be no doubt as to its identity. It disregarded "U-185's" fire and, flying low over her, dropped its depth charges on "U-564". Several of them exploded under her and she broke in two and sank. The aircraft then turned its attention to "U-185" and machine-gunned the bridge until it forced Maus to dive. He remained submerged for some time and, on surfacing, rescued the captain, two officers and 15 men of "U-564".

Patrol off Bahia

"U-185" then went south and for several days lay off Bahia to watch the shipping. Apparently there was only one opportunity for an attack and after about a week Maus returned to Recife. On his way he came upon a merchantman sailing independently. He fired a salvo of five torpedoes, two of which hit. The ship took on a heavy list but did not sink at once. Maus closed, apparently with the idea of finding survivors, but as he approached the ship, several heavy explosions were heard and he withdrew.

"U-185" was at this time on his way to the rescue of "U-604". Hoeltring was captain of this U-boat. He had lost a big toe in a peculiar manner. Once when lying drunk in his cabin he

saw his feet sticking up under the blankets. Picking up his revolver, which he always kept handy, he took careful aim at them and blew off his big toe.

"On July 30 "U-604" had been attacked off San Salvador by a U.S.N. aircraft of V.B. 129. The aircraft took her completely by surprise, catching the member of the Propaganda Kompanie which she carried as he was making a film on the upper deck. The First Lieutenant, from whose sector the aircraft had attacked, and another man on watch were mortally wounded. The captain, despite bullets in his shoulder and chest, fought the aircraft until it put an end to the battle by dropping a stick of four bombs which exploded close to the U-boat.

"The aircraft reported that the U-boat remained on the surface for a little while after the bombs had been dropped and then "exploded violently abaft the conning-tower" and submerged. The aircraft saw oil and bubbles appear and then the U-boat came to the surface again. This happened twice and finally the U-boat dived with her stern high in the air.

"U-604" is badly damaged

"Hoeltring surveyed the damage. The port motor had been wrenched out of line, the starboard switchboard had been torn loose, as had a diesel fuel oil gravity feed tank and a Junkers compressor. Water was coming through a propeller shaft and also from under the conning-tower hatch. Both periscopes were useless and, as several tanks had been punctured, the U-boat could dive but slowly and when submerged could only maintain trim with difficulty.

"If this was the condition of the boat, the plight of her crew was not much better. The men, who had always been uneasy under the command of Hoeltring - nick-named "the gunman" - had, not unnaturally, been badly shaken by the attack. They had been particularly affected by the death and the burial at sea of two of the men who had been wounded in the action. Another man had gone mad as a result of inhaling gas from a diesel engine. Hoeltring himself had been badly wounded and was in an extremely nervous condition.

"He informed Control that his boat could not make the passage to France and was told that another U-boat would be sent to his aid. The damage was patched up and Hoeltring began to coax his crippled U-boat to cover the thousand miles which lay between him and the rendezvous.

"It took him nearly a fortnight and on the way was attacked first by aircraft and then by a destroyer. Forced to spend twenty hours submerged, he surfaced on the morning of August 4 to find that the motor on which he had been running had been put out of action,

that the rudder had been jammed and that the boat was about 15° down by the stern. Repairing the damage, he struggled on and, a week later, in a position about four hundred miles north-west of Ascension, met "U-185".

"The boats hove to about 100 yards apart and began the transfer of stores, fuel and equipment. This took several hours and had just been completed when another U-boat, commanded by Emmermann and thought to be "U-172" arrived. It was arranged that she should take half of "U-604's" crew.

"The men were on deck waiting to be taken off when an aircraft dived out of the clouds. Emmermann submerged at once. Maus, as he had done when "U-564" was attacked, remained on the surface, and circling the helpless "U-604" shot down the aircraft after it had ineffectually dropped its bombs. Emmermann was in no hurry to resurface and Maus had to take all "U-604's" men on board, though a number of mattresses had already been transferred to "U-172".

"Hoeltring, whose wounds were still not yet healed, was rowed across in a rubber boat, the rest of the crew swimming. "U-604's" Engineer Officer set four scuttling charges and opened the vents. Before he had covered the distance between the two U-boats, "U-604" had sunk.

"On board "U-185" Hoeltring thanked Maus for standing by him when Emmermann had dived and arranged for his men to relieve "U-185's" crew where possible, so that they might "earn their passage." Maus, however, got in touch with "U-172" again and three or four days later Emmermann turned up with a story of compass trouble to explain his tardiness.

"He did not get much of a welcome from Maus and Hoeltring, and the former gave him a piece of his mind for leaving them in the lurch. Emmermann now took on board twenty-three of "U-604's" complement - including the Propaganda Kompanie man - and, having tested his compasses, parted company from "U-185", who shaped course for base.

Aircraft attack begins

"A little after daybreak ten days later, when the U-boat was about 800 miles south-west of the Azores, the lookouts sighted two aircraft approaching. They were a striking force from U.S.S. "CORE". The fighter passed over the U-boat from astern and when Maus hurried to the bridge he found that every man of the watch had been wounded.

"The officer of the watch, badly injured, tried to tell him something, but, as he struggled for speech, the bomber dropped her

charges. One of them exploded under the boat aft and another hit the 105-m.m. gun. The tanks on the port side were crushed, the pressure hull was cracked and a battery was damaged. Even as Maus shouted down to ask if the U-boat could dive, the engineer officer gasped out from below "Everything smashed ... batteries ... chlorine."

"Water was pouring into the battery compartment under the Officers' quarters which were forward of the control room and, as the diesels were still running, the gas which was given off was sucked through the boat to the engine room. There several men died where they stood before they could obey the order to abandon ship.

"The gas was also spreading forward. Hoeltring, who had been asleep with his revolver by his side at the time of the attack, jumped up and, smelling the chlorine, remembered that in the bow compartment lay a young seaman from his boat who had been so badly wounded that he could not walk. Snatching up his revolver, he went forward to rescue him. The chlorine was too quick for him. The young seaman, seeing Hoeltring with his revolver in his hand and knowing that he must die, cried out to his captain to kill him. Hoeltring did this and then killed himself.

"On the bridge Maus and the men who had escaped from below were enduring the gunfire of "CORE'S" aircraft. No attempt was made to reply. Gradually sinking, the U-boat continued under way leaving a trail of thick, black smoke. As she got lower and lower, the men were swept off. Maus did his best to keep them together and about four hours later thirty-six of them were rescued by U.S.S. "BARKER."

4. JAPANESE SUBMARINE'S VERSION

The following formed a recent broadcast from Tokio Radio.

"Merciless heat, fickle weather and range of operations mean little to the tough Japanese submarines which sweep through the entire Indian Ocean and sometimes penetrate deep into enemy waters beyond the Arabian Sea. The aim of this voyage was to disrupt enemy supply routes in the Arabian Sea.

"Setting out from his base, our submarine commander steered a course calculated to produce the best chance of meeting enemy ships putting out from Colombo. With enemy scouting planes increasingly active, it was no picnic. Several days out, we met our first game on the horizon. It was a 10,000 ton enemy cargo ship zigzagging along its course. The reflection in the periscope grew larger, and, finally, the ship came within range. Our torpedoes zipped out and hit the

enemy ship simultaneously just in front of the bridge and stern.

"The crippled enemy cargo ship started to sink and hastily lowered two lifeboats to carry away the crew. Our commander decided to finish the ship off quickly, and, despite the danger of discovery, broke to surface. The gunners scrambled up to their stations and opened fire. Every shell found its mark. The blazing ship nose-dived into the sea. The prisoner captain revealed his ship was British chartered to the Dutch. She has been transporting war supplies since the outbreak of hostilities. When hit, it had been on its way to Durban from Colombo.

"Some hours later the lights of a ship were seen through the darkness. Since we were in the vicinity of Ceylon, we hoped it would turn out to be an enemy flying boat tender. Within hitting range we discovered that the ship was an enemy hospital ship with Red Cross insignia marking its white funnel, apparently carrying enemy troops wounded in the fighting along the Indo-Burmese border. We let it pass silently by, unharmed and unmolested.

"Towards evening one day we were given another ship leaving a certain port. Although it couldn't have seen us, the enemy ship suddenly changed its course, veering away out of range of our torpedoes.

"In order to develop more speed our submarine surfaced and soon caught up with the enemy ship. We manoeuvred into position and fired a torpedo which hit the enemy ship in the stern damaging the rudder, preventing it from steering a straight course. While circling about in one spot the ship began sinking and soon the propellers were exposed. Just at that instant two enemy planes appeared on the horizon apparently in answer to a call for assistance from the stricken vessel. Refraining from making a further attack our submarine submerged to a greater depth for safety.

"One day the sub's commander was informed by the lookout station that masts were in sight. Soon after, the enemy ship, which appeared at first sight as a cargo ship, was observed to be a gunboat camouflaged as a merchantmen. Examination showed the enemy ship was well armed carrying a gun on the bow and stern as well as two more amidships and A/A machine-guns. Convinced that unless the enemy ship was sunk at the first blow it would fight back with its powerful armament, the commander carefully manoeuvred our ship into position and the torpedoes hit the bow and middle of the vessel precisely where they were intended. The ship appeared to be lifted out of the sea by the terrific explosion. As we watched, the ship sank bow first with the lifeboats only partly lowered.

"Though enough enemy ships had been bagged for a single cruise our Commander, despite the danger of detection by enemy

reconnaissance planes, pushed on to Mouts Bay on the coast whereof is situated an important enemy base. We discovered a large tanker which seemed as big as a battleship. The enemy ship was entirely unsuspecting. Even the guns of the tanker were covered with canvas.

"The torpedoes with unerring accuracy struck the tanker just abaft the bridge. The tanker, which apparently was filled with oil, burst into flames and sank almost immediately after a series of explosions. Two bombs were dropped from enemy planes, but failed to do any damage, and after submerging to a great depth we crept away to safety."

SECTION IV

INTELLIGENCE1. JAPANESE ANTI-SUBMARINE MEASURES

The following review of Japanese Anti-Submarine Measures has been taken from a recent Admiralty Monthly Anti-Submarine Report.

"Rather than be weak everywhere the Japanese appear to have concentrated their anti-submarine strength in the Palau area from which to protect the vital route from Japan to the battle-grounds in the South and South West Pacific.

"In the late summer of 1943 they also seem to have increased the size of some of their convoys in other areas from three or four ships to eight or ten ships with perhaps three instead of one or two escorts, thereby concentrating a greater anti-submarine force for counter attack. (Note: See remarks by Chief of Staff Japanese 4th Fleet included in this report). Air escorts which were scarcely used at all in the early stages and anti-submarine air patrols have also been greatly increased, and it is reported that depth charges are bigger than heretofore.

Japanese Methods for Defence Against Submarines.

"The following appear to be some of the anti-submarine precautions adopted by the Japanese as a result of attacks by U.S. submarines:-

"Radical zig-zags often under constant helm.

"Large alterations of the mean course at dusk and dawn, but zigzagging if practised at night is generally performed by ships altering course in succession, thereby greatly assisting the submarine.

"Employment of a large number of lookouts in merchant ships. Cases have been reported of lookouts being spread at intervals along the upper deck, all with binoculars, looking for periscopes or wakes.

"Special placing of escorts to protect the most important ships in the convoy.

"The routing of important forces along the same path as that traversed shortly before by an unimportant but none the less

tempting target (possibly a decoy ship) has been suggested.

"Continuous pinging by escorts fitted with S.S.T.

"Scattering of the convoy once the presence of a submarine is disclosed.

"A thorough search of the area outside bases prior to the sailing of important forces.

"Towing of magnetic wires, nets, etc., by merchant ships has been frequently suspected but not yet proved.

"The employment of vessels for anti-submarine escorts which, in appearance, resemble small merchant ships and tend to deceive submarines.

"When making a zigzag, ships frequently alter to quite a different course for a minute or two before taking up the new course. Another system of zigzagging is so to arrange the plan that throughout the day the convoy undergoes a gradual change of mean course.

"Placing of one escort about 5,000 yards astern or on the quarter of the convoy to prevent shadowing by a submarine or possibly to facilitate the counter-attack after a submarine has fired torpedoes.

"A continuous anti-submarine surface and air patrol off the main bases.

"A thorough night search of areas outside bases by local patrol craft.

"Air patrols on moonlight nights.

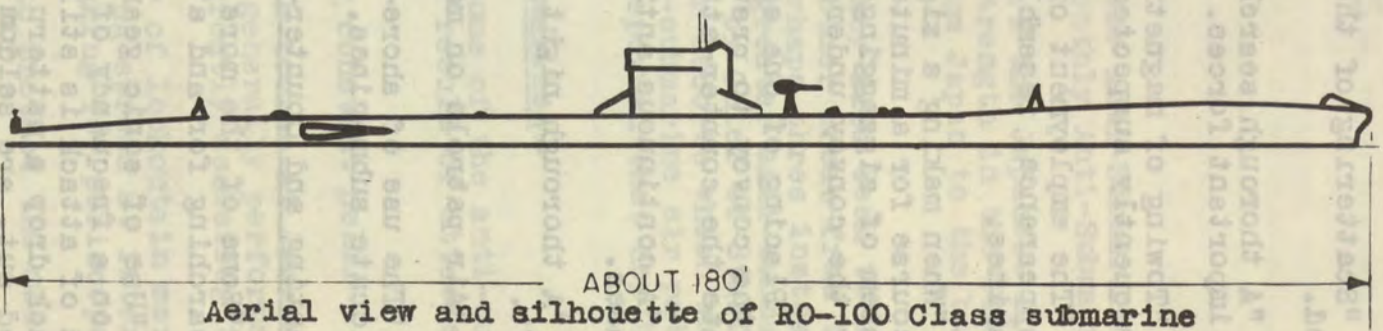
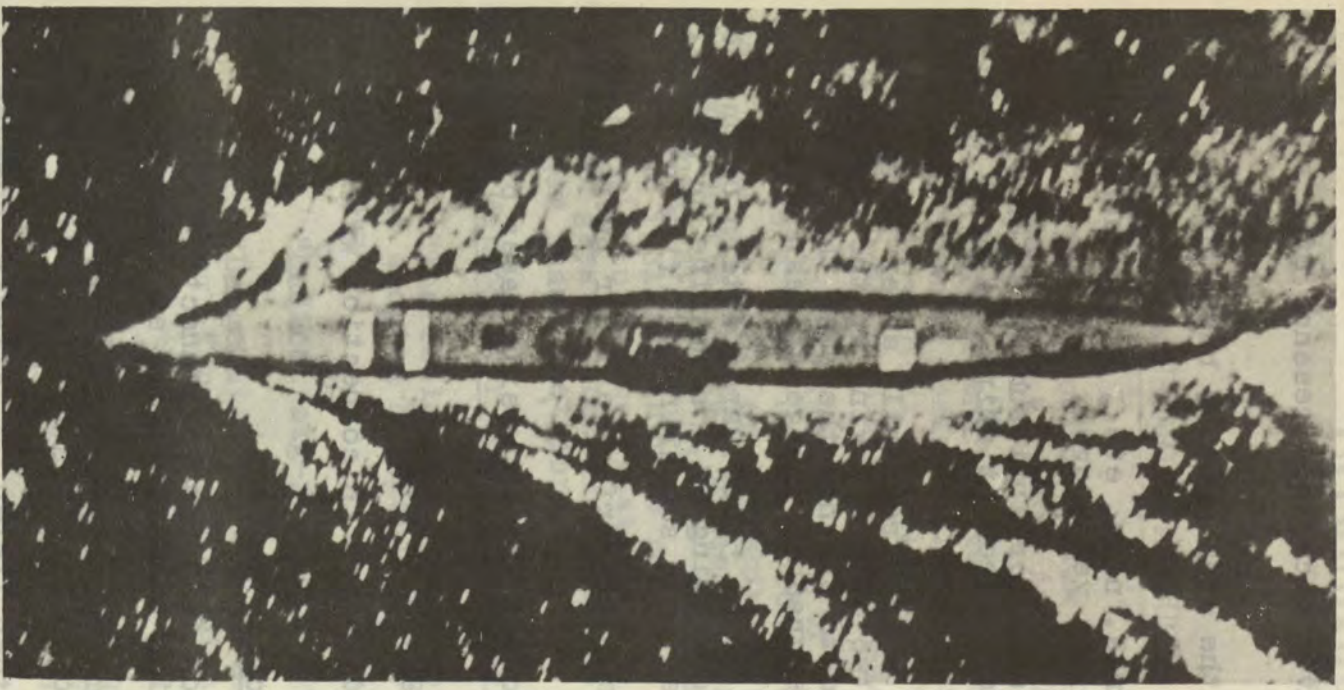
"The use of shore-based Radars in connection with searchlights to locate submarines.

Japanese Hunting and Counter-Attacking Methods

"Some of the more common features in connection with Japanese searching for and attacking submarines are as follows-

"Use of sonic gear is moderately good but use of S.S.T. (generally on a frequency of 16 to 18 Kc/s) is mostly poor. The main method of attack is still to proceed at high speed along the torpedo track drop a pattern and then listen. Attacks, however well carried out, are seldom protracted, so that long dives by submarines have been very few.

"Charges are dropped at random if anti-submarine craft



Aerial view and silhouette of RO-100 Class submarine

cannot gain contact with submarines. These are sometimes dropped at regular intervals (say half-hourly).

"Aircraft, if present, assist the search by dropping smoke floats.

"A common method thought by commanding officers to be used by enemy anti-submarine craft is for them to criss-cross from side to side astern of the submarine in an effort to obtain her course and speed before carrying out an attack.

"Enemy anti-submarine craft are either able to proceed at slow speed very silently or submarine S.S.T. gear is poor.

"Another reported method of attack is for the anti-submarine vessel to approach at slow speed, giving no warning of the attack, then to drop her charges and speed up to clear the area.

"Several cases have been reported, when submarines have been forced to the bottom, of grapnels being used to locate the submarine in shallow water.

"Merchant ships are fitted with depth-charges, generally three throwers, and these are fired immediately after the attack as a deterrent. Merchant ships also invariably open fire either at the periscope or indiscriminately in the direction from which the torpedo has come to prevent the submarine from surfacing.

JAPANESE A/S MEASURES IN VARIOUS AREAS

"From the study of patrol reports of 1943 the following appears to be the Japanese policy in the various areas.

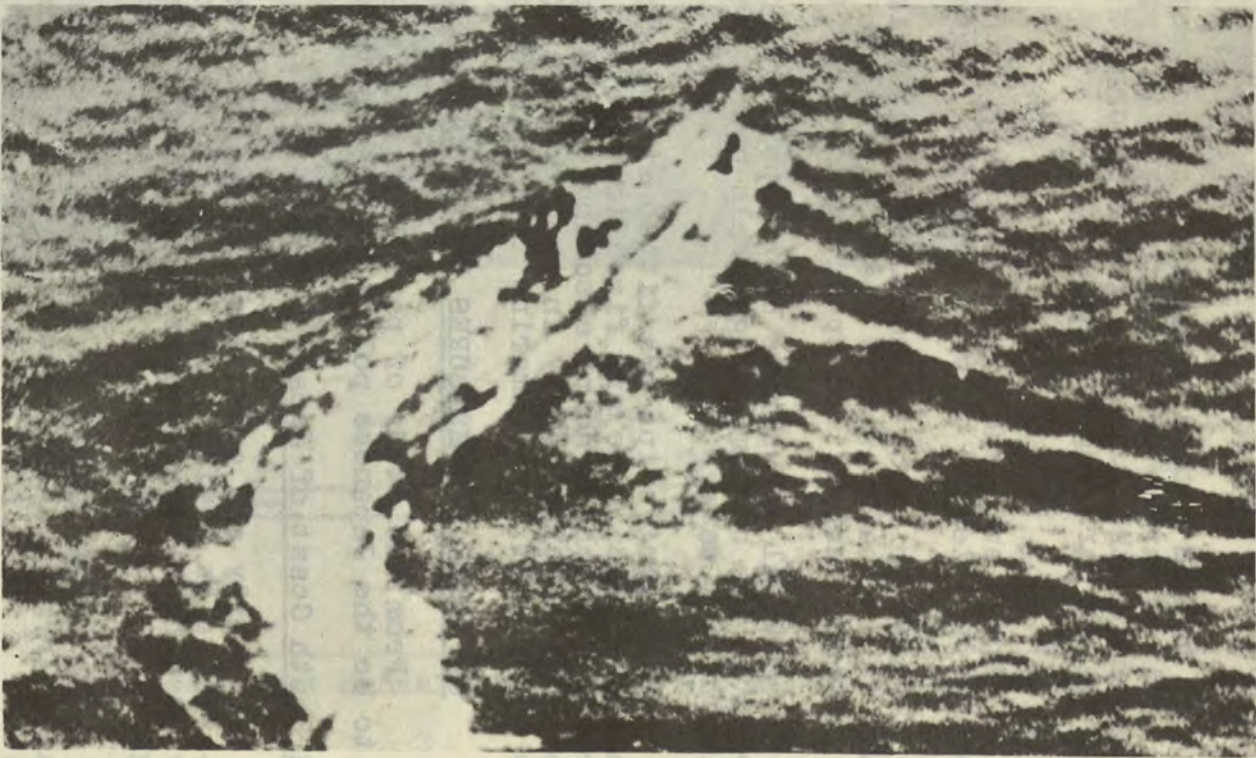
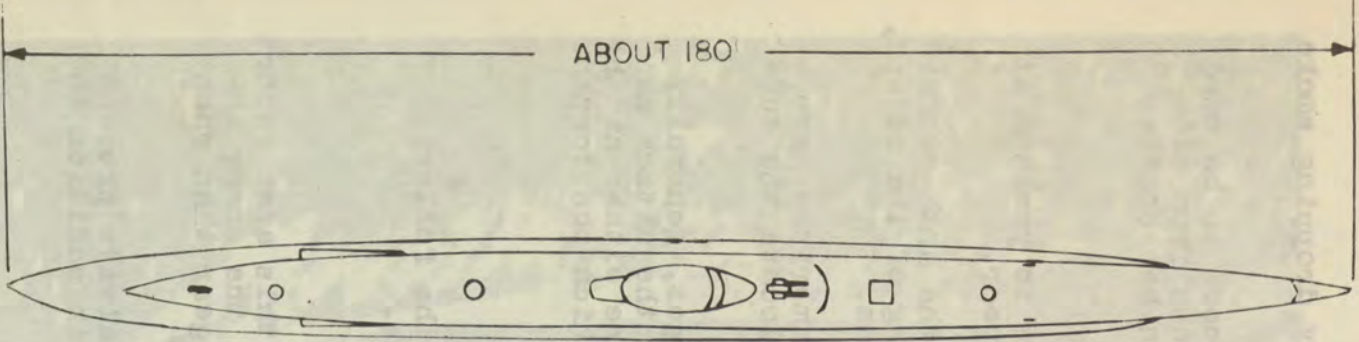
East and South Coast of Japan

"Nearly all submarines which have been in this area report counter-attacks as having been light and ineffective, the enemy invariably getting better results when using listening gear than when "pinging".

"A large number of W/T fitted sampans are always present and apparently keep a look-out and report submarines in addition to fishing.

"A small craft patrol inside the 100 fathom line near important harbours, with larger patrol vessels further out, is normal and at night the area is well searched to a depth of about 10 miles.

"The coast line appears to be split up into "beats," patrol



An RO-100 Class Japanese submarine photographed by an Allied aircraft.

vessels acting as an anti-submarine screen while convoys traverse their area. After an attack additional anti-submarine vessels have been noticed to appear quickly on the scene.

"Occasional air searches are made and air coverage for convoys is general.

"A line of anti-submarine trawlers is maintained some 500 miles east of Japan, probably with the main object of giving warning of attack from air and surface forces.

"Depth-charges (and possibly bombs) are dropped, whether in contact or not, as a deterrent and occasionally at set intervals.

"Searchlights are used from the coast probably in conjunction with shore-based Radar.

"After an attack all ships of the convoy turn toward the beach to enter shallow water.

"All convoys in this area are escorted by small craft or old destroyers.

The Yellow Sea and West Coast of Japan

"Although airfields are within easy range, no air coverage has been seen and convoys, even those containing important ships, are very thinly escorted.

"No patrol vessels or aircraft have been observed in this area.

Formosa and the China Coast

"Constant patrols along the coast appear to be maintained but no air patrols have been seen.

Palau Area

"From all accounts the Japanese first team is based here, "pinging" being accurate and depth charging being heavy, although attacks have seldom lasted long. Air and surface patrols are maintained in approaches to Palau. All convoys have air coverage, and are escorted; additional escorts are sent out to meet incoming convoys.

"Aircraft in this area appear to be very efficient and on several occasions submarines have unquestionably been sighted submerged and bombed. The water is very clear and normally calm.

"In the most recent counter-attack, in which U.S. Submarine

"TUNNY" received considerable damage, the anti-submarine vessels did not drop charges at once but probably tracked "TUNNY" during her initial burst of high speed after firing torpedoes, as she was only a short distance away. The first two charges were definitely shallow, followed by a most accurate deep pattern which forced the submarine from 300 to 200 ft., bent the hull forward and jammed the foreplanes with five degrees to dive. The Commanding Officer considers it possible that either his high speed gave him away to the air escort, which led the destroyer on to him by smoke floats for the first two shallow charges, or that the enemy was clever enough to drop two shallow charges to start with to drive him deep before planting a full pattern set deep. About 15 lb. of depth-charge fragments were later collected from the forward casing.

Truk, Saipan and Guam Area

"The considerable anti-submarine activity reported last year in this area seems now to have completely disappeared, patrol vessels being scarce and inefficient and reported to enter harbour at dusk. Air patrols have, however, greatly increased in number and escort all convoys at night. Searchlights have often been reported from Truk, probably in conjunction with Radar.

Marshall and Gilbert Area

"Not very much traffic has been encountered here and few escorts, but there are indications of greater activity in this area recently.

"Continuous and numerous, but not very efficient, air patrols are now reported in this area. Air coverage is provided for convoys and several submarines have been bombed after making attacks in this area, the air search being kept up determinedly.

The Sea of Japan

"No escorts, air or surface, have been encountered so far in this area by four submarines but the opening of a submarine campaign here may be expected to bring at least air coverage for the plentiful coastal traffic.

Methods of evasion employed by United States Submarines

"The methods of evasion practised by United States submarines are almost identical with our own and with each other and are as follows:-

"Make an initial turnaway from the track of the torpedo and proceed at high speed for a short time immediately after firing.

"Rig for depth-charging at once, then run as silently as possible. Planes and steering are put in hand and an auxiliary gyro run off a battery is provided, in case it is desired to stop the gyro.

"A mean course is chosen and the submarine proceeds at slow speed with frequent alterations of course on either side of the mean to prevent the enemy from estimating his course correctly.

"United States submarines invariably go very deep. They are all fitted with a bathythermograph, to indicate below what depth a change of temperature gradient will reduce the anti-submarine efficiency, and on reaching such a depth, go well below it. Daily trials in the area are carried out using the bathythermograph to find out in advance what would be the best depth to counter the enemy anti-submarine measures.

"The 'S.B.T' is now in production and will soon be fitted in United States submarines.

"Main vents are kept open in some submarines to prevent possible air leaks disclosing their position."

2. UNLOADING JAPANESE SUBMARINE TRANSPORTS

The following information has been received from the S.W.P. Advanced Intelligence Centre.

"Japanese supply submarines are unloaded by medium landing craft only at night. Usually the submarine commander plans to surface about 2200 yards from shore shortly after sunset. Thirty minutes after surfacing the unloading normally begins. The best hours are the two hours after sunset and the hour after the moon sets. The landing craft are along the shore, ready to get underway, one hour before unloading begins and upon sighting a periscope they move in its direction.

"One hour before the time set for unloading operations to begin, a single white light on shore is flashed at intervals if all is well. In case enemy ships, planes or troops are in the vicinity and there is danger to the submarine, a red light will be flashed at intervals in addition to the radio signal "Kiken, Kiken" meaning "Danger, Danger". Interference by enemy aircraft usually postpones the unloading for about two hours.

"Before surfacing, the submarine will make a 360° search four times with her raised periscope. If nothing unusual is

perceived, she surfaces and sends dot-dash continually with a red or white light. The landing craft answer by making a circle with a white light about a metre in diameter.

"While awaiting the arrival of the landing craft, the submarine crew hoist cargo on deck and prepare as many chutes or sliding platforms as possible. The chutes facilitate unloading from the submarine to the landing craft. Deck cargo is towed ashore and the remainder is stowed in the landing craft. A maximum of two hours is allowed for unloading.

"The appearance of enemy ships or aircraft will cause the submarine to immediately submerge, regardless of the unsecured cargo on deck. When the submarine has not been sighted and the standard four hours' period in which to commence unloading has passed or the sun has risen, preparation for unloading operations will be abandoned for the day.

Cargo Tube Method of Unloading Supply Submarines

"A new and more efficacious method of unloading supplies from Japanese submarines has been recently discovered. The principle is the same as that of the human torpedo, once used by the Italian Navy. A special torpedo-propelled submarine hull has been devised with a cruising range of approximately six nautical miles. This device is called the "cargo tube" by the Japanese and is piloted by one helmsman. Carried to the unloading point by the submarine, the cargo tube is released and beached by the helmsman. The hull cruises submerged and only the helmsman's seat, one metre above water, is visible. Even on moonlight nights surface ships or aircraft would find it difficult to detect.

"The tube has a 20 metric-ton cargo capacity, two tubes being capable of unloading the submarine's entire cargo. At Guadalcanal this method was considered 100% successful, whereas unloading by barges or by releasing the cargo in floating bags met with 40% failure.

3. HELICOPTER KITES

The following information has been received from C.-in-C. Eastern Fleet.

"The use by German U-boats of some form of towed helicopter kite for increasing their range of vision was reported some time ago. The following details have recently been received, and are

graded generally B.2.

"In the description published in W.I.R. No. 202 of a 1200-ton U-boat, attention was drawn to a framework on the after conning tower superstructure. It is now reported that this is used in connection with landing and launching of a helicopter kite. A towing cable is housed on two drums forward of the platform and is worked by a winch on the port side of the "bandstand". The helicopter is stowed below deck.

"The operation of the machine is described as follows:- The U-boat puts on maximum speed and as the helicopter rises into the wind the pilot starts the motor, which operates a horizontally rotating screw of the "windmill" type. The cable to which the helicopter is attached is stated to be 200 to 300 metres long. When it is desired to bring in the helicopter the cable is reeled in on the drum described above, and the pilot steadies the machine by use of the propeller. In extreme emergency pilot and helicopter would, of course, be abandoned. Communication between the pilot and the U-boat is said to be by a sort of 'walky-talky' carried on the back of the pilot.

"It is stated that these helicopters are only intended for use in remote areas of the South Atlantic and particularly the Indian Ocean, so they are unlikely to be carried by any but 1200 or 740-ton boats. Experiments with 500-ton boats have, however, been reported."

4. JAPANESE SUBMARINE'S INSTRUCTIONS

The following are extracts from a translation of a Japanese submarine order prepared by the Joint Intelligence Centre Pacific Ocean Areas.

The submarine, "I-36", was ordered to leave Yokosuka immediately on taking in supplies and to proceed to the Hawaiian area to "reconnoitre the enemy's condition, observe and attack his fleet, and destroy his commerce."

The Japanese order then summarised operations. "Reconnaissance of the enemy's condition" was to be carried out by the submarine's aircraft. The dates fixed for reconnaissance were September 21, October 8 and October 20, 1943.

"Observation of the enemy fleet is to be carried out principally by aerial reconnaissance, but during periods when no

other reconnaissance is in progress observation of the enemy fleet is to be carried out as thoroughly as possible on the sea routes likely to be used in the Fiji area and at the same time destruction of his commerce will be undertaken.

"On the occasion of the second and third aerial reconnaissance flights a bombing attack is to be carried out simultaneously with the reconnaissance mission. However if the second flight is successfully made without detection no bombs will be dropped.

"Enemy carriers will be considered the most desirable target for both submarine attacks and bombing raids by the aeroplane.

"While in enemy waters do your utmost to intercept enemy messages."

5. JAPANESE SUBMARINE EQUIPMENT

The following information, the most recent available, supplements details given in previous copies of the South West Pacific Anti-Submarine Report.

Hydrophones -

All Japanese submarines are equipped with Type 93 Hydrophones. These can detect underwater noises at a range of about 10 miles in favourable conditions and considerably greater ranges have been reported.

Asdic -

Sets are installed in all "I" and "I-100" class (with the exception of the minelaying boats) and are also installed in the RO-100 Class. Reception of Japanese Asdic transmissions have been reported to have been obtained by a friendly submarine at a range of 10 miles.

The Asdic installation is made by the German Electro Acoustic Company or Kure Naval Arsenal and has either two or three magneto striction oscillators for transmission and reception. It is known as the "double purpose type underwater signalling apparatus". A fixed transmission interval appears to be employed.

Underwater Signalling Gear -

Underwater sound signalling equipment for intercommunication when submerged is also fitted. The apparatus is probably similar

to Fessenden gear and consists of two audio-frequency oscillators, one on either side of the hull.

Radar -

The latest Japanese submarines are fitted with Radar, probably along the lines of German equipment, and this policy is now being extended to include the older types of U-boat. The Radar may be a surface or an air search type.

Radio -

In addition to standard W/T equipment Jap. submarines are fitted with W/T apparatus allowing them to transmit and receive at periscope depth. The range has been assessed at about 300 miles.

Torpedoes -

A 21" torpedo is standard equipment in Japanese submarines with the exception of midgets which carry 18" torpedo. There is some evidence that Japanese submarines now possess an electric torpedo. This is likely to be a trackless type with a speed of about 30 knots to 5,000 yards. There is no evidence of acoustic or magnetic devices being employed at present on the air driven torpedoes whose maximum speed is about 45 knots. Maximum range varies from about 6,000 yards at 45 knots to 16,000 at 25 knots. The standard depth setting is about 12 feet apparently even against heavy ships.

Anti-aircraft Armament -

It has been reported that several Japanese submarines have been equipped with twin mount 80 m.m. A/A guns installed in the after part of the Bridge. Additional U-boats may subsequently be similarly equipped. This represents a great increase in fire power and the Japanese may follow the German example of shooting it out with Allied aircraft when surprised on the surface. It should be borne in mind that there is every indications that the Japanese are equipping their U-boats with aircraft search Radar.

6. RESCUE OF SURVIVORS FROM U-BOATS

The following is an extract from a recent Admiralty Monthly Report.

"After destroying a U-boat, a Commanding Officer may be in doubt as to whether to let the survivors "swim for it" or not. The

risk of attack by another U-boat or by aircraft, the need to rejoin a convoy passing through a danger area, the condition of his ship and the state of the weather must be set against the value of the prisoners taken.

"The Intelligence Division of the Naval Staff has built up an extremely efficient system of interrogation of prisoners of war and the interrogating officers have, by their skill and patience, obtained information of the greatest value. Some prisoners have an invincible security-consciousness, others are merely bad-mannered or stupid, but the majority make a useful contribution to our intelligence.

"In the past year, prisoners taken from U-boats have provided information on the following subjects, among others; patrol lines and pack tactics, "Gnat" and "Curly" torpedoes, submarine bubble target, Radar decoy balloons, search-receiver and listening gear, W/T organization, diving depths, speeds and angles, and anti-aircraft armament and tactics.

"It is of course, not only the information itself which is of such value; it is the obtaining of it early, in time to plan well ahead and to prepare counter-measures which will quickly defeat the enemy's devices and so reduce our losses."

SECTION V.

MISCELLANEOUS

1. JAPANESE AT WAR

The following extracts have been taken from a recent copy of the O.N.I. Weekly. They form part of a story of an American prisoner of war and are his impressions of Japanese soldiers.

"The Japanese seems incapable of taking a definite stand on doing a job. He always seeks an order from a superior. Lacking that order, he consults his equals until a compromise agreement is worked out. He will not interfere with an equal regardless of how much he disagrees with him. On a road repair job I was in charge of one day, I had 100 American prisoners of war and three Japanese sentries.

"One sentry wanted the crown taken off the road, the second sentry wanted the shoulders of the road shovelled into the holes, while the third sentry wanted the holes in the road dug out and put on the shoulders. We worked all day in perfect harmony doing all three things, ruined two kilometres of perfectly good road, and all three sentries felt they had done a good job. The second day, an officer came by and directed that the holes in the road be filled in. The sentries promptly directed that the crown of the road be taken off and put into the holes.

"The Japanese soldier is so afraid of his officer that he will do anything to avoid censure or admonition. During an officer's investigation in a case where a soldier bought a watch from a Filipino who had stolen it from an American, the soldier committed suicide. Upon being given a job to do the soldier rarely asks questions or detailed instructions and too often the original instructions are misunderstood.

"I have seen simple jobs done three times because of misunderstood instructions. Superiors feel free to criticize work done and to change plans. The soldier feels, if given a job no matter how poorly understood, that he must do something - anything - provided a showing is made. The superior is satisfied if something was accomplished; whether right or wrong apparently does not matter.

"Orders may be disobeyed provided the proprieties are complied with. Thus instructions had been issued by the officers that no produce of the colony (papayas, bananas, camotes, etc.) would

be brought into the camp by prisoners of war. Yet the sentries were perfectly willing to let it be brought in if the produce was covered.

"Most sentries allowed their prisoners to pick fruits and vegetables where available provided that the prisoners asked their permission. Picking produce without having first secured permission was considered insulting to the sentry. The Japanese was not interested in keeping produce out of the camp. He was interested in our giving him tangible proof that we recognised his regulations by covering up our produce. He was not interested in our gathering produce, but he wanted recognition of his authority in the matter of asking his permission to do so."

2. REVIEW OF 1943

The following review of Anti-submarine operations in 1943 has been taken from the United States Fleet Anti-Submarine Bulletin for February, 1944.

"The year 1943 was most satisfactory in the war against the U-boat.

"The merchant vessel tonnage lost by submarine action was only 41% of the 1942 figure, whereas the merchant vessel construction was twice that of 1942 and the number of submarines sunk or probably sunk was 1.9 times the number for 1942.

"During 1942, 9.2. merchant vessels were sunk by submarine action for every submarine sunk or probably sunk, whereas in 1943 only 1.9 merchant vessels were sunk by submarine action for every submarine sunk or probably sunk. Furthermore, by October 1943 the total tonnage lost from all causes by the Allied and Neutral nations since the beginning of the war in 1939 had been more than replaced by new construction. In 1943 the total tonnage of merchant vessels construction was four times the total tonnage lost from all causes during the year by the Allied and Neutral nations.

"During the first half of 1943, the U-boats concentrated most of their strength in an effort to cut the convoy traffic between the United States and United Kingdom. In March the enemy had their greatest success of the year sinking by submarine action 106 merchant vessels of 620, 109 gross tons while losing only 12 submarines.

"In May the U-boats suffered a disastrous defeat marked by the decisive battle against Convoy ONS-5 on the 5th and 6th, when six

submarines were sunk or probably sunk and four damaged, while 12 merchant vessels were sunk. During this month 43 submarines were sunk and 49 merchant vessels were lost by submarine action.

"June was a comparatively quiet month with 19 merchant vessels lost by submarine action and 18 submarines sunk or probably sunk.

"In July there was a marked redistribution of the U-boat operating areas with a shift from the North Atlantic Area to the Mid-Atlantic, Caribbean, Brazilian, Freetown and South-east Atlantic Areas. Despite their new strategy, the U-boats suffered an even more overwhelming defeat in July and August than they had suffered in the North Atlantic in May with 68 submarines sunk or probably sunk, while 60 merchant vessels were sunk by submarine action. The campaign against transit U-boats in the Biscay-Channel Area, the success of planes operating from CVE's in the Mid-Atlantic Area, the outstanding work of land-based planes in the Brazilian Area and the persistence of surface escorts and support groups contributed heavily to the U-boat losses.

"There was very little activity in the early part of September, but, in the latter part of the month, activity was resumed in the North Atlantic Area with attacks on Convoys ON-202 and ONS-18 by "wolf-packs" which succeeded in sinking six merchant vessels and three escorts with the probable loss of only two submarines.

"Encouraged by their success in September, when 18 merchant vessels were sunk by submarine action and only nine submarines were sunk or probably sunk, the U-boat concentration was increased in the North Atlantic Area in October. But here again another disastrous defeat was suffered. Only three merchant vessels were sunk by U-boat action while 21 U-boats were sunk or probably sunk. This rate of exchange was prohibitive for the U-boats and they again were forced to disengage. The world-wide picture for the month was 19 merchant vessels sunk by submarine action and 26 submarines sunk or probably sunk.

"Enemy U-boat operations for November were generally ineffective although four ships were sunk near the Panama Canal, the first damage inflicted in the Panama Sea Frontier since July 1942. In the middle of the month a "wolf-pack" appeared to the northeast of the Azores where for the remainder of the month it concentrated its efforts on United Kingdom-Gibraltar convoys. New tactics were employed, namely surface operations by night only and use of L.R. aircraft from Bordeaux for shadowing convoys during the day, with each line of U-boats manoeuvring as necessary upon reports of the air reconnaissance so as to be in a position for the night attack. These tactics were not successful as no merchant vessels were sunk. The world-wide

picture for the month was 13 merchant vessels sunk by submarine and 14 submarines sunk or probably sunk.

"During December the submarines continued their policy of remaining submerged during daylight. Such tactics, however, greatly reduced their mobility and effectiveness, particularly in operations against convoys, resulting in December as the lowest month of year for merchant vessel sinkings by submarines, and the second successive month that no sinkings occurred in the North Atlantic Area.

"The reduction in merchant vessel losses by submarine, each quarter, is illustrated by the following:

1st Quarter	45% of the yearly total
2nd Quarter	28% of the yearly total
3rd Quarter	17% of the yearly total
4th Quarter	10% of the yearly total

"The Mediterranean showed the greatest increase in activity, 12.1% of the merchant vessel losses occurring there against 2.2% for 1942, but the submarine losses continued heavy with only 1.7 merchant vessels sunk for each submarine sunk or probably sunk.

"The Indian Ocean also showed a big increase, 11.6% of the total merchant vessel losses occurring there compared with 5.2% in 1942. The counter offensive was poor, 26 merchant vessels being sunk for each submarine sunk or probably sunk.

"The Japanese submarine offensive in the Pacific against merchant vessels was not successful as only 18 merchant vessels were sunk while 22 submarines were sunk or probably sunk."

3. DECLINING JAPANESE STRENGTH

The following extracts have been taken from a Japanese document captured at Kwajalein and form part of a "Inner South Seas Area Force Secret Directive from the Chief of Staff, 4th Fleet (Japanese) to all Commanding Officers".

The Chief of Staff admits "the existing defence system is inadequate to cope with enemy attacks" and adds that "it will be impossible to reinforce defences in the immediate future."

"Efforts must be made to improve technical schools which have shown a marked decline since the beginning of the war. Similarly measures must be undertaken to offset the lowering of morale resulting from protracted guard duty in the tropics. It should be remembered that only by means of constant training and manoeuvres can the inadequacies of the defence system be offset.

"The critical shortage of shipping space requires little comment. It is expected however that enemy submarine activity will continue to increase. Due to the imperfections in anti-submarine equipment now in use the increased number of escort vessels must be used for defence against submarines as well as for anti-aircraft defence. No ship is to proceed unescorted regardless of delays resulting from the necessity of providing screening vessels or air cover.

"Particular efforts must be made to salvage damaged ships and to rescue survivors.

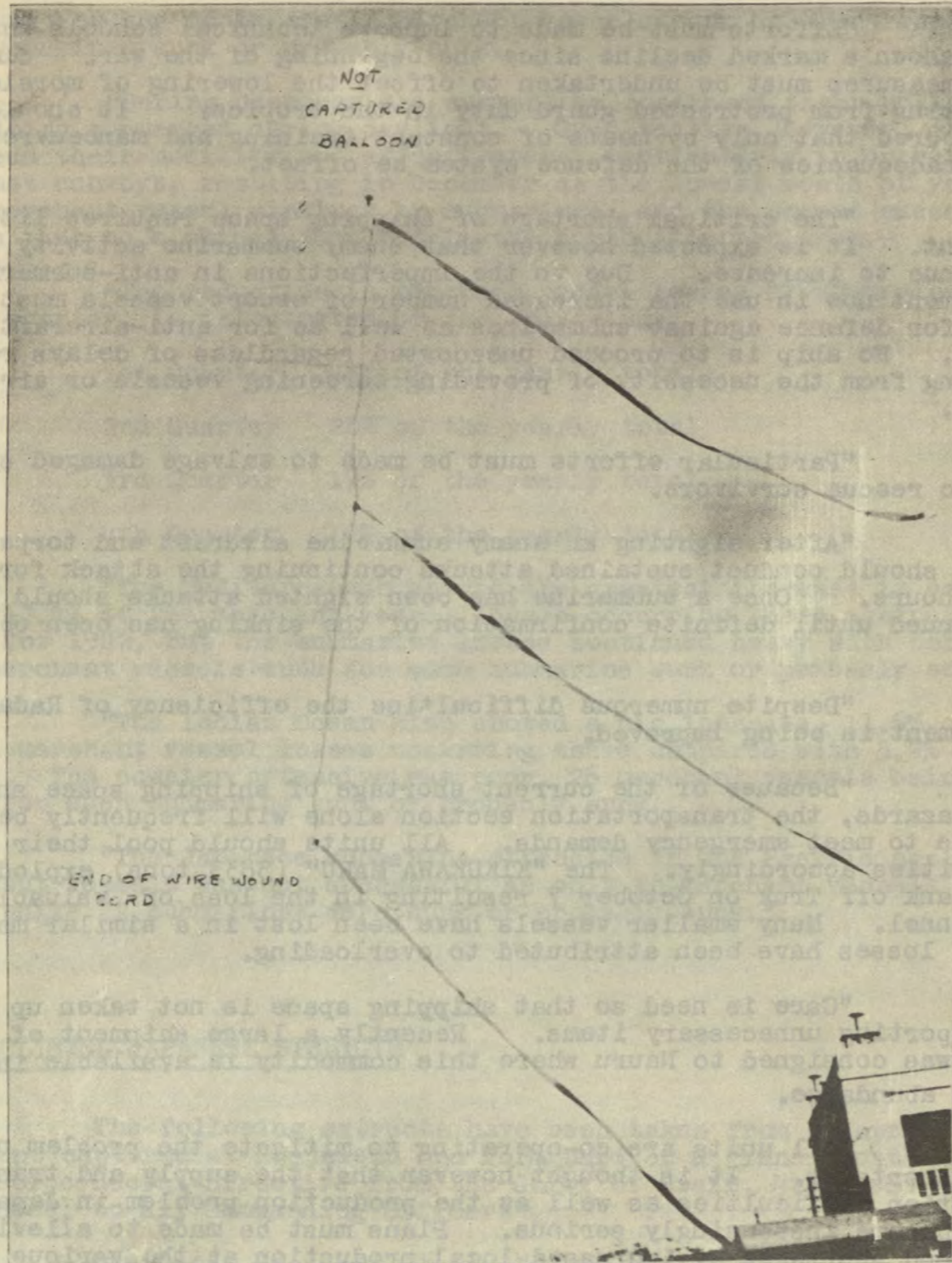
"After sighting an enemy submarine aircraft and torpedo boats should conduct sustained attacks continuing the attack for several hours. Once a submarine has been sighted attacks should be continued until definite confirmation of the sinking has been obtained.

"Despite numerous difficulties the efficiency of Radar equipment is being improved.

"Because of the current shortage of shipping space and war hazards, the transportation section alone will frequently be unable to meet emergency demands. All units should pool their facilities accordingly. The "KIKUKAWA MARU" (3833 tons) exploded and sank off Truk on October 7 resulting in the loss of valuable personnel. Many smaller vessels have been lost in a similar manner. These losses have been attributed to overloading.

"Care is need so that shipping space is not taken up in transporting unnecessary items. Recently a large shipment of firewood was consigned to Nauru where this commodity is available in great abundance.

"All units are co-operating to mitigate the problem of food shortages. It is thought however that the supply and transportation difficulties as well as the production problem in Japan will become increasingly serious. Plans must be made to alleviate the food shortages by increased local production at the various bases."



The streamer-like metal foil strips which form part of the German Radar Decoy, a description of which was given in A.C.B. 0233/43 (6).

4. CAN YOU ANSWER THESE?

What are the capabilities and limitations of M.L's as A/S vessels?

C.B.4097 Paras. 483-485

What action should be taken if an enemy submarine surfaces?

C.B.4097 Paras. 840-849

What action should be taken by an Asdic and Radar fitted ship on hearing suspicious hydrophone effect at night or in low visibility?

A.C.B.0235, Page 13
A.C.B.0234, Article 115

You are starboard wing ship escorting a convoy and an Asdic contact is reported by the operator, bearing Green 30, range 1500 yards. What action do you take?

A.C.B.0234(2) Article 114.

What considerations affect decisions to salve merchant ships damaged by enemy action or marine accident?

A.C.B.0234(1) Article 35.

3. TYPE 13A LIFTING CHAIN

A draft C.A.F.O. has been received referring to the danger of the lifting chain breaking in service in type 13A sets and providing for the issue of a new chain and lock. These will not be available on this station for some time, but ships' staffs and Base A/S Staffs should make regular inspection of lifting chains to see that they are working smoothly and that no undue strain is put on them.

4. TESTING FAULTY RELAYS

Some relays of both Australian and English make, have been

SECTION VIMATERIEL1. ECHO SOUNDING SETS

Attention is drawn to A.F.O. 5379/43 dealing with types 762 and 763/A Echo Sounding sets and with the question of corrosion in the covers of oscillator tanks.

It is emphasized that the Port A/S Officer is the Base officer responsible for making good any defects in echo-sounding equipment which cannot be repaired by the ship's staff.

2. SPARES

When a ship is known to be approaching a refit period it is imperative that all A/S stores required for the refit should be obtained in advance, either from the ship's base or from S.N.S.O. because on arrival for refit only those modifications for which stores are available can be taken in hand. If the drawing of stores is left until the ship arrives, it is likely that some stores are not available at the port where the ship is refitting and time may not permit their being obtained from Sydney.

3. TYPE 134A LIFTING CHAIN

A draft C.A.F.O. has been received referring to the danger of the lifting chain breaking in service in type 134A sets and providing for the issue of a new chain and lock. These will not be available on this station for some time, but ships' staffs and Base A/S Staffs should make regular inspection of lifting chains to see that they are working smoothly and that no undue strain is put on them.

4. TESTING FAULTY RELAYS

Some relays, of both Australian and English make, have been

found to be faulty in operation owing to the core material retaining its magnetism after removal of the magnetising cause. This has caused the relay to remain energised for too long. All local production relays are subjected to the following tests in H.M.A.S. "RUSH-CUTTER" and these tests may be useful in cases where a faulty relay is suspected.

- (a) Relay, Patt. 776 should operate with 2.25 m.a. and should release when current drops to 1.0 m.a.
- (b) Relay, Patt. 771 should operate with .74 m.a. and release when current falls to .2 m.a.
- (c) Relay, Patt. 3378, minimum lag between opening of Switch and closing contacts: 0.3 secs. when relay is horizontal.

SECTION VI

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- (a) Relay, Pat. 776 should operate with 2.25 m.a. and should release when current drops to 1.0 m.a.
- (b) Relay, Pat. 771 should operate with 7.4 m.a. and release when current drops to 3.0 m.a.
- (c) Relay, Pat. 3378 minimum gap between opening of switch and closing contacts: 0.3 mm. when relay is horizontal.

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3. TYPE 134A LIFTING CHAIN

A draft C.A.P.O. has been received referring to the danger of the lifting chain breaking in service in type 134A sets and providing for the fitting of a new chain and lock. These will not be available until late in the year, but some of the sets are being fitted on this station for some time, but staffs and Base A/S should make regular inspection of lifting chains to see that they are working smoothly and that no undue strain is put on them.

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