CHAPTER 23

THE HOLDING CAMPAIGN AT SEA, 1943-44

ALTHOUGH it was a matter of urgency for Coastal Command during 1943 to press almost all its resources into the struggle against German U-boats, the offensive corollary of striking at enemy trade routes was prosecuted whenever the opportunity or facilities existed. From the very restrictive position of 1939 when enemy warships at sea were the only legitimate targets for attack, repeated extensions of the "sink at sight areas" had by 1943 authorised the sinking of any German or German-controlled merchant shipping encountered from the North Cape to Cape Finisterre. Although conditions varied considerably it was realised that the protection of friendly lines of communication and the disruption of those of the enemy were militarily equally as vital in northern waters as they had already proved in the Mediterranean. The magnitude of the Allied defensive problem in the Atlantic overlaid but did not entirely distract attention from Germany's own very vulnerable sea communications, and it was lack neither of plans nor intentions but rather of means which prevented a full-scale counter-offensive. Even with limited means, however, much was accomplished by Coastal Comand and sound foundations were made for rapid expansion of effort when greater forces should become available.

It will be remembered that in July 1941 Air Chief Marshal Joubert had stated that "the attack of shipping is a primary duty of Coastal Command's striking force" and had re-aligned his bomber and torpedo squadrons around the east and south coasts of Britain to increase pressure on the enemy. At the same time Bomber Command claimed that attacks against shipping were its sole prerogative and the issue was left undecided by a notation to the September 1941 directive to Coastal Command by which Bomber Command was to be primarily responsible for the area between Cherbourg and Texel, and Coastal Command for all other areas, although joint strikes in both areas were to be made when necessary. During the winter of 1941-42 the expected increase in Coastal Command's forces did not take place partly because of a shortage of aircraft and partly because existing squadrons were sacrificed to meet the needs of new theatres of war. Divided control of operations did not work well and, after the *Scharnhorst* and *Gneisenau* incident in February 1942, Coastal Command made a new attempt to organise anti-shipping activities on a sound basis. It pointed out in March that there were then no fewer than four air authorities engaged in this task: Fighter Command operated Hurricane-bombers in the Strait of Dover; No. 2 Group, Bomber Command, had a general licence between Cherbourg and the Heligoland Bight; Fleet Air Arm aircraft, nominally under Coastal Command direction but actually controlled by the Vice-Admiral, Dover, operated in the Strait; and Coastal Command itself. Accordingly a plea was made that, although the same agencies should be employed, the whole effort should be co-

ordinated by Coastal Command, which should further have the right to call on No. 2 Group both for reconnaissance and strikes outside the present limits of its own operations until Coastal Command could meet all requirements.

At this time Coastal Command shed its responsibility for mine-laying in favour of increased anti-shipping activity, but although Hudson squadrons made a brave showing in the North Sea during the second quarter of 1942, the forces available for the task declined rather than expanded. All four Beaufort torpedo-strike squadrons were ordered overseas before August 1942. There was no question that this was demanded by over-all strategy since in the Mediterranean, in particular, the assault on enemy shipping had a direct and immediate bearing on the outcome of current campaigns which in turn would have far-reaching effects on Allied sea communications. Undoubtedly, however, operations in home waters were thus closely conditioned by the availability of aircraft and trained crews.

Of the four well-defined areas where German shipping could be attacked —the Bay of Biscay, the English Channel, Hook of Holland to the Elbe Estuary, and the Norwegian coastline—the two former had lost much of their importance by the end of 1942. In the Bay dense anti-submarine patrols acted naturally as a bar to blockade runners, and although the enemy made a few isolated attempts to pass ships in or out of Bordeaux, his original plan of large-scale trading between France and Japan had been abandoned in favour of cargo-submarine traffic. Again the special iron-ore vessels previously trading between Spain and Bordeaux had mostly been withdrawn for service between Sweden and Rotterdam, leaving only small coast-hugging ships in the southern Bay. At the same time the appearance in No. 19 Group of Liberator and Halifax aircraft, equipped with the Mark XIV bombsight, gave ample striking power in emergency to Coastal Command without the retention of a specific anti-shipping force; and these replaced the Sunderlands which had hitherto necessarily borne the brunt of operations beyond the range of strike squadrons. In the English Channel limited movement of individual ships dodging from port to port under heavy air cover was still possible, but the fighter-bombers of Fighter Command denied any regular convoy sailings even on a small scale. It was thus to the Hook-Elbe and Norwegian routes that Coastal Command applied its resources and it was there that German defences were most in evidence. The vast dimensions of Germany's imports of Swedish and Norwegian iron ore engaged a very large fleet of shipping, and, as the iron was required principally in the Ruhr, transport to Rotterdam greatly relieved the strain on German railways, already hard pressed by air attack and the provision of locomotives for occupied areas in Russia. Return traffic was mostly coal and coke to Sweden and military supplies for Norway, all of which could again most conveniently be loaded at ports connected by canals to the Ruhr.

Germany had begun the war with ample shipping to maintain this trade, especially as Swedish dependence on coal imports resulted in 40 per cent of the ore being transported in neutral ships—so that during 1941 nearly

10,000,000 tons of iron ore were imported despite the attempts of No. 2 Group (Bomber Command) and Coastal Command to interfere. Large-scale mining by Bomber Command and the heroic low-level attacks of Hudson aircraft during 1942 had greatly reduced the number of ships available to Germany, and this, together with "invisible losses" due to longer turn round and delays while waiting for convoy or minesweepers, had resulted in a fall of ore imports to 8,800,000 tons.[1] Uneasily aware of the strategic implications of this decline, now that visions of a swift victory had faded, Hitler appointed in mid-1942 as Reichskommissar for Shipping, Karl Kaufman, who began energetic rationalising of existing facilities, the withdrawal of ships allocated to the German Navy and the institution of a program of emergency building in Dutch shipyards. At the same time more and more naval auxiliaries, heavily armed with anti-aircraft guns, were allotted to convoy the coastal ships while *Luftwaffe* resources were similarly sapped to provide air protection.

Except for the relentless and ever-increasing mining campaign of Bomber Command, German defences appeared by early 1943 to have secured an advantage. The Hudsons of Nos. 16 and 18 Groups Coastal Command had by then largely been withdrawn for employment in the Mediterranean, or the squadrons, re-armed on Fortress and Liberator aircraft, transferred to anti-submarine duties. Two Hudson squadrons remained in No. 16 Group, but could be employed only intermittently at night when their chances of real success were low. The torpedo-strike squadrons of Coastal Command were equipped mostly with obsolescent Hampden aircraft which could penetrate enemy areas by day only when there was ample cloud cover, and which, as yet unequipped with radar aids, were badly handicapped even on night operations. There had grown up, however, after very successful experiments in mid-1942 from Malta, the idea of a tactical strike wing, in which a squadron of fast torpedo bombers was accompanied by one or more squadrons of equal performance relying on cannon fire and bombs to subdue enemy anti-aircraft fire and able also in most instances to engage enemy fighters in the critical moments when the torpedo bombers made their deliberate straight and level approach. In September 1942 the Air Ministry agreed to nominate the Beaufighter as the standard Coastal Command strike aircraft and it was intended to have ten squadrons by April 1943. A strike wing on the Malta model had been formed in November 1942 by allying the one Beaufighter torpedo squadron to two Beaufighter "anti-flak" squadrons at North Coates in No. 16 Group. The first sortie of this formation during December, however, had miscarried badly and it was withdrawn for intensive training until April 1943. Its subsequent successes were manifest, but shortage of Beaufighters and the prior needs of campaigns in the Mediterranean prevented any immediate increase along these lines until the end of the year. Nevertheless, the threat of this one wing was large enough

[1] The actual losses in the North Sea, Baltic and Norwegian coast between 1 Jun and 30 Nov 1942 amounted to 227,575 BRT of German shipping plus 37 neutral ships aggregating 91,851 BRT. Total losses in all areas prior to 1 Jun 1942 were 1,660,472 BRT.—Extracted from "Report of Reichskommissar for Shipping".

to force the enemy to curtail drastically trade from Rotterdam and to route the iron ore and associated cargoes through Emden, out of reach of Coastal Command.

Only a handful of Australians served during 1943 on the Beaufighter squadrons or in the Wellington-Albacore formations which were created primarily to harass German E and R Boats operating in the English Channel. No. 455 Squadron R.A.A.F., however, continued to fly Hampden torpedo bombers from Leuchars, Scotland, until December 1943, when last of all the stopgaps, it re-armed on Beaufighters. The actual results, in terms of ships sunk, appear small in relation to the considerable effort needed to keep this squadron operational, but despite severe tactical limitations the Hampdens actually forced the enemy into passive and active defence precautions which imposed a severe strain on his ability to deploy forces to best advantage in other areas. In common with the other Hampden squadrons No. 455 was required frequently to engage in the more immediately pressing anti-U-boat campaign, but its value still remained in the potential threat which it constituted to enemy communications. Although the continued existence of No. 455 was twice in doubt at this stage, firstly because of Coastal Command's desire in October 1942 to absorb its ground staff into anti-submarine squadrons and then according to Air Marshal Williams' plan to withdraw Nos. 455, 462 and 464 to form part of an R.A.A.F. bomber group, it survived these crises.

The year 1943 began for No. 455 with rumours of a second expedition to Russia,[2] but these hopes slowly faded as, despite bad weather, a large number of operations were flown off southern Norway, beginning on 11th January 1943 when Squadron Leader J. N. Davenport[3] led a sweep of twelve aircraft to patrol between Egero Island and Lister. One aircraft crashed on take off, a second returned early due to engine failure, and another crashed on return in remote country on the north side of Hill of Wirren in Angus. Six Hampdens were then sent on detachment to Wick on 15th January to relieve a flight of No. 489 Squadron R.N.Z.A.F., and from this base on 16th January three independent unsuccessful searches were made for enemy shipping in the "Leads" south of Rundo Island. Armed with bombs instead of torpedoes Davenport on 18th January led three other Hampdens in a low-level attack on an enemy destroyer[4] after the force had made a daring penetration into Haro Fiord. Davenport's bombs straddled the target and Pilot Officer Storry[5] scored a near miss. Three Hampdens from Wick again patrolled off The Naze on 22nd January and Storry secured a bomb hit on a small coastal vessel but most of the day sorties at this time found no shipping moving along the exposed coast where the enemy well knew our patrols were made.

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[2] A plan to send to north Russia 32 Hampdens, 8 Photo Reco Spitfires and 6 Catalinas was drawn up, and an advanced party dispatched. The operation was cancelled when Soviet authorities refused to accept such a force on Russian soil unless they could assume full operational control.

[3] W Cdr J. N. Davenport, DSO, DFC, GM, 403403; comd 455 Sqn 1943-44. Bank clerk; of Blakehurst, NSW; b. Rose Bay, NSW, 9 Jun 1920.

[4] Identified by photographs as Norwegian.

[5] F-Lt C. G. Storry, DFC, 404728; 455 Sqn. Printer's traveller; of Tugun, Qld; b. Featherston, NZ, 7 Apr 1916.

Night searches were difficult and on 23rd-24th January Davenport was the only one of four pilots to find any target when he attacked shipping dimly seen at anchor near Larvick. The whole squadron was alerted on 25th January when five Hampdens from Wick and six from Leuchars joined nine from No. 489 in a search for the *Scharnhorst* and *Prinz Eugen* which had been sighted moving northwards out of the Baltic. Before the Hampdens could make contact, however, the enemy ships discovered the presence of a shadowing reconnaissance aircraft and turned about. Although the immediate threat had been successful in forcing these vessels back to harbour the Australians were very disappointed that the chance to inflict major damage had been lost, especially as indeed happened, it was likely that the ships would later make a safe passage under cover of bad flying weather.

Some consolation came on 28th January when three Hampdens from Leuchars in company with four of No. 489 secured six torpedo hits on *Kaldnes,* a 3,500-ton Norwegian merchant ship, near Egero Island, and the vessel was seen to sink by one of the Beaufighters sent to give fighter protection. Flight Lieutenant Clarke,[6] who had already on 27th January launched a torpedo against a chance-encountered U-boat, joined with Flight Lieutenant Humphrey[7] three days later in a determined attack on a convoy of three ships near Lister but owing to the poor visibility no claims were made. On all duties a total of sixty-one sorties had been made for the loss of two aircraft, and with results which were encouraging for a winter month when Scandinavian sailings were normally restricted to a minimum.

On 6th February Wing Commander Lindeman handed over command of the very well-trained, offensively-minded No. 455 to Wing Commander Holmes[8] who thus became the first Empire Air Training Scheme graduate to achieve this honour in Coastal Command. Two daylight and two night attacks were made on shipping at anchorage during February but no claims were made. Most of the thirty-six aircraft sent out on armed reconnaissance saw nothing, although on 21st February a Ju-88 attacked a formation of four aircraft operating in daylight west of Egersund only to be driven off damaged by the concerted fire of the Hampdens. Strict attention to gunnery was given in the ceaseless tactical training conducted by No. 455, for while attempts were made to give large forces of Hampdens an escort of Beaufighters, the disparity in speed and manoeuvrability of these two types made it impracticable to evolve a small composite force. Convoy-escort and air-sea rescue patrols interfered with offensive duties at the close of the month and the search for survivors from a sunken ship continued during the first three days of March. Thirty flights were made in atrocious weather without any mishap and although the search conditions were bad, Davenport reported a considerable amount of wreckage

[6] Sqn Ldr A. H. G. Clarke, DFC, 400964. 455 and 32 Sqns. Audit clerk; of East Kew, Vic; b. Melbourne, 19 Aug 1920.

[7] F-Lt M. S. Humphrey, DFC, 400473. 455, 14 and 7 Sqns. Bank clerk; of Caulfield, Vic; b. St Kilda, Vic, 11 Mar 1916.

[8] W Cdr R. Holmes, 406356. Comd 455 Sqn 1943, 32 Sqn 1944-45, 13 Sqn 1945. Articled law clerk; of Perth, WA; b. Fremantle, WA, 30 Oct 1915.

and two occupied life-boats. From Leuchars, Wick and Sumburgh forty-nine flights were made into Norwegian waters despite ten days forced inaction in mid-March due to unfavourable weather, but the only two attacks on enemy shipping both came on 22nd-23rd March and were unsuccessful. April brought better flying weather but it entailed greater risks in the patrol area, as on 4th April, when after two aircraft had turned back because of the absence of cloud cover, Humphrey and one other continued searching and launched torpedoes at a large ship, only to be themselves attacked by a BV-138 flying-boat. Humphrey's aircraft was damaged and he himself wounded in both knees, but although outranged by the cannon armament of the enemy, both Hampdens were able to withdraw safely. Far more formidable reaction was evident on 12th April when four Hampdens and six Beaufighters were intercepted near Obrestad by two Me-109's and four FW-190's. A battle ensued for twenty-five minutes and one Beaufighter was shot down, but the Hampdens, although all damaged, finally escaped. The results of forty-one offensive sorties were again disappointing although a mixed force of Hampdens and Beaufighters raked with gun fire the decks of a 5,000-ton merchant ship and three escorts after a torpedo attack had failed on 21st April. Indeed, as mentioned earlier, the auxiliary defensive anti-submarine role of the squadron actually produced the main highlight when on the last day of the month Flight Sergeant Freeth sank *U227*.

On six occasions during May, involving nineteen aircraft, Australian sorties were ineffective owing to lack of cloud cover in the patrol areas, but with enemy shipping moving freely along the Norwegian coastline, the good weather brought compensations in the shape of greater possibilities for attack. Holmes, Davenport and Squadron Leader O'Connor[9] ("B" Flight commander) were all keenly aware of the need for continuous realistic training to keep a torpedo-strike squadron always at the pitch of readiness required for instantaneous attack on a fleeting target, and by their constant example propagated a truly pugnacious spirit throughout the squadron, even though at this date Hampden operations were discounted by most outsiders. Training also had many hazards for on 17th May a Hampden crashed out of control during an exercise with naval units and a week later Freeth was killed in a collision with a Beaufighter while practising defensive tactics against fighter attack. These accidents, however, were overshadowed by the manner in which both Australian and English crews of No. 455 prosecuted the offensive in enemy waters. On 12th May Davenport and Flying Officer Atkinson[1] were hunting near Egero Island in poor visibility when they discovered an unescorted ship which they estimated to be of 2,500 tons.[2] Both aircraft made three

[9] Sqn Ldr B. R. D. O'Connor, DFC, 404835. 455 and 32 Sqns. Bank clerk; of Murwillumbah, NSW; b. Brisbane, 5 Jul 1913.

[1] F-Lt B. Atkinson, 119121 RAF; 455 Sqn. Motor driver; of Scarborough, Yorks, Eng; b. Berwick, Northumb, Eng, 1 Aug 1916. Killed in action 6 May 1944.

[2] Enemy records now reveal that this was the German *Klaus Howaldt* of 5,956 tons. Accurate recognition of shipping and estimation of size from the air posed continual difficulties to aircrew especially in bad weather and in circumstances of attack. However, the usual tendency was to overestimate rather than underestimate tonnage.

approaches before the torpedoes were fired and at first they feared that the vessel had successfully turned away from the missiles, but as the aircraft circled they saw that one torpedo had exploded forward of the bridge on the starboard side, and as the decks became awash the crew took to life-boats. Two of three aircraft sent to patrol south of Mandal on the night of 15th-16th May also found worthwhile targets, one dropping bombs on a well-protected convoy while Humphrey aimed his torpedo at a large tanker in the centre of another heavily-escorted convoy creeping along the coast.[3] On the next night five crews searched unavailingly for shipping but one Hampden aimed its bombs at the eastern end of Farsund bridge and caused a fire just south of the bridge itself. Four aircraft returned to the same area on the night of 17th-18th May and one scored near misses with bombs against a ship anchored at Farsund. Four more torpedo attacks were made by Australians before the end of the month but in no case was the result of the attack seen owing either to bad visibility or the necessity to avoid the ever-increasing fire from anti-aircraft escort ships—which rightly appeared to aircrews a true measure of the pressure they were in fact exerting on the enemy.

Large-scale exercises with the Home Fleet seriously reduced operational flying during June 1943 and only seventeen flights were made in Norwegian waters. On 2nd-3rd June Flying Officer Austin[4] made a night torpedo attack but no further success came until the morning of 19th June when four Hampdens were operating between Stavanger and The Naze. Humphrey claimed a possible hit on a 3,000-ton ship. Flight Sergeant Hansen[5] manoeuvred to attack a large vessel but finally torpedoed amidships "a 2,500-ton ship" which appeared out of the mist directly ahead. This ship was seen to be settling down by the stern with a spiral of thick black smoke rising from it. At almost the same time Clarke was attacking a 2,000-ton ship in the face of intense small-calibre gun fire, and although his Hampden was extensively damaged as it swept over the ship, the rear gunner reported a blinding red flash which completely obscured the vessel half a minute after the torpedo had been released.[6]

No. 455 Squadron was thus at the peak of its effectiveness when on 21st June twelve crews were grounded at the end of their first tour of operations.[7] There were no Australian replacements available because the only operational training unit still training crews for Hampdens was in Canada, and even these crews had no torpedo experience. The squadron was thus almost non-operational until 7th July when permission was

[3] There is no record of any enemy ships damaged at this time and place.

[4] F-O W. Austin, 402841; 455 Sqn. Station overseer; of Ivanhoe, NSW; b. Strood, Eng, 11 Nov 1912. Killed in action 14 Sep 1943.

[5] F-Lt H. O. Hansen, 411776; 455 Sqn. Clerk; of Manly, NSW; b. Orange, NSW, 24 Dec 1918.

[6] The only success in fact was the sinking of the German escort trawler *Roland* (UJ1708) of 468 tons. This vessel was torpedoed and was most probably the target attacked by Hansen despite the discrepancy in description.

[7] The duration of operational tours varied widely with the function of aircrew, being sometimes assessed on sorties flown and sometimes on a time basis. Owing to the strain of torpedo-strike activity it was held to be unwise to retain crews on operations longer than 12 months without a rest.

received for the grounded crews to continue flying until replacements could be secured. As if giving thanks for this temporary reprieve, fifteen Hampdens scoured the Egero area that day, unfortunately without result, although O'Connor had a brush with two Me-109 fighters. A moderate effort was sustained during the rest of the month but twelve aircraft had to abandon day searches at various times owing to lack of cover and one Hampden failed to return. Necessarily a large retraining program was being pressed for the freshmen crews and although only 228 hours were flown on operations, 662 flying hours were spent on training during July, while the experienced pilots also gave ground instruction in tactics and operational intelligence. The comparative lull in activity ended on 2nd August when three Hampdens attacked two heavily-defended ships near Lister. Two torpedoes failed to release, possibly due to shell hits in the bombing gear, but the third caused an explosion alongside the larger ship.[8] Ten Hampdens were detached to Benbecula on 5th August to conduct anti-submarine patrols, three aircraft flying that day over the Faeroe-Shetlands channel and landing at Reykjavik in Iceland, returning to Wick the following day after a similar patrol. The Benbecula detachment was cancelled on 8th August when six junior crews were sent to Tain for specific torpedo-strike training, while the other crews turned once more to their old Norwegian hunting grounds, attempting in all fifty sorties in that area for the disappointing result of one bombing and one torpedo attack.

The veteran crews were finally withdrawn from operations at the beginning of September when Air Vice-Marshal Wrigley (Air Officer Commanding Overseas Headquarters) reluctantly accepted the position that in order to keep No. 455 in the front line it would be necessary to feed in any available crews regardless of nationality. In a conference with the Director-General of Postings R.A.F., however, Wrigley made quite plain the Australian desire that, by the time the long overdue re-arming with Beaufighters was effected, twenty-four complete R.A.A.F. crews would be available. It was inevitable, however, that the weakened No. 455, even though the new crews were technically well trained, could operate only cautiously in danger areas where previously crews had gone confident in their own experience. The first two weeks of September were spent in air-sea rescue duties and in dispersing Danish fishing fleets operating in forbidden areas of the North Sea. Training exercises occupied the latter half of the month although on three occasions formations of six Hampdens swept the Lister area without result and on 28th September the whole squadron prepared to attack the "pocket-battleship" *Lutzow* (previously named *Deutschland*) which was thought to be moving southwards towards the Baltic. This emergency passed and nine aircraft were sent to northern Scotland for anti-submarine patrols, flying twenty-two uneventful sorties before they were withdrawn to Leuchars on 11th October. A fortnight of extremely bad weather then prevented any operations and six crews

[8] No vessels were sunk or damaged in this attack according to enemy records.

which searched between Lister and Egero Island on 25th October found no targets.

Holmes and O'Connor had remained with No. 455 to complete the training of the new crews, and with the arrival late in October of two very experienced pilots, Squadron Leader Wiggins and Flight Lieutenant Pilcher,[9] it was again possible to pass from defensive to offensive duties. All of the thirty-nine flights made during November were day and night armed reconnaissances off the Norwegian coast, which, although they resulted in no action, instilled confidence in the crews. It was, however, with great rejoicing that pilots learnt on 19th November that the long-promised Beaufighters would be available in December. Davenport rejoined No. 455 late in November and on 5th December he took over command from Holmes who had been posted to Australia. A few uneventful flights were made before the squadron officially became non-operational on 13th December but all thoughts were already on the future. No. 455 was to form the anti-flak component of a new strike wing in which No. 489 R.N.Z.A.F. was to be the actual torpedo force. Twenty-four wireless-operator navigators arrived early in December and although unfortunately not one of these was an Australian, they allowed immediate training to commence. Davenport, in addition to his reputation for skill and fearlessness on operations, possessed clear, popular and efficient administrative qualities which made the task of conversion swift and trouble free. His enthusiasm and positive thinking quickly contrived to get the very best from both his ground and air crews.

While Coastal Command's anti-shipping offensive tapered off through lack of suitable aircraft in August 1943, an uneasy quiet fell on the U-boat warfare in the Bay of Biscay and the Atlantic Ocean. Although decimated and tactically outmanoeuvred during the summer battles, the U-boat fleet was still numerically large, and was indeed the one offensive arm with which Germany could hope to gain resounding successes to offset the defeats in Russia and the Mediterranean, and the mounting scale of the Anglo-American bombing offensive. It was clear that for political as well as military reasons Grand Admiral Doenitz would make great efforts to renew his U-boat offensive as soon as possible, if only to keep vast numbers of aircraft tied down to defensive duties in all oceans and thus unavailable to join in the direct attack on Germany. For its part, Coastal Command, having won the upper hand, attempted at least by continual harrying to prevent any resurgence of the morale of German submarine crews. The planned "Derange" and "Seaslug" Biscay patrols were continued at full pressure until 22nd August, although only three U-boats were sighted, due to the extremely cautious progress of the enemy craft which ran submerged by day and proceeded close to the Spanish shore, sometimes within territorial waters. To meet this development a new series of air patrols ("Percussion") began off the Spanish coast on 23rd August,

[9] Sqn Ldr J. M. Pilcher, DFC, 402880. 70 Sqn RAF, 458 and 455 Sqns. Grazier; of Thallon, Qld; b. Burwood, NSW, 5 Oct 1915.

again with cooperation from naval hunting groups, and with the added assistance of British and American squadrons based at Gibraltar and in Morocco. The new patrols led to no immediate increase in sightings, however, and August ended with the Germans making little attempt to attack Allied shipping but also studiously avoiding giving ships and aircraft the opportunity to destroy U-boats. Statistically the month was the best so far recorded for the Allies with only 160,000 tons of shipping lost from all causes (U-boat attack, bombing, marine losses) while in very widely scattered areas twenty-five U-boats were destroyed in return for only twenty ships sunk by the whole U-boat fleet. For individual aircrew, however, the turn of events was less palatable, for without the chance of striking at the enemy, the maintenance of an ever-denser blockade of hostile waters demanded even more watchfulness, more meticulous navigation and greater risks from weather and enemy aircraft on lengthening patrols, which brought only the passive satisfaction of imposing greater operational discomfort on the crews of U-boats.

After 6th August the only incidents reported by Australians on Biscay patrols were combats with enemy aircraft which attempted unavailingly to break the Allied stranglehold. This intensification of enemy fighter activity was sufficiently strong to demand the transfer of two Beaufighter squadrons from No. 18 Group, and increased assistance from No. 10 Group, Fighter Command, to cover the anti-U-boat patrols, but the main brunt inevitably fell on the individual aircraft crews themselves. Flight Lieutenant Gerrard of No. 10 was attacked by six Ju-88's in the far south of the Bay on 8th August, but escaped with minor damage; three days later he failed to return from a similar patrol. Flight Lieutenant P. R. Davenport[1] of No. 461 was intercepted on 14th August by the now familiar formation of six Ju-88's and before he could reach cloud the Sunderland had been heavily damaged by explosive cannon fire, one gunner was dead and the wireless operator wounded. Davenport flew inside cloud for fifteen minutes, with no instruments to guide him, and by constantly altering course drew away from his pursuers and made a successful forced landing at the Scilly Isles. Flying Officer Gaston of No. 86 had relatively little difficulty in beating off two Ju-88's which attempted to attack his Liberator early on 25th August. But escapes and even successes against the enemy fighters could not conceal the fighters' importance in the tactical situation. Flying Officer Dowling of No. 461, leading the gallant crew which under Flight Lieutenant Walker had won the heroic struggle against eight Ju-88's on 2nd June, failed to return from patrol on 13th August after reporting enemy fighters approaching his Sunderland. Aircraft captained by Flight Lieutenant Skinner of No. 10 and Flying Officer Croft[2] of No. 461 were lost in similar circumstances on 18th and 30th August respectively.

The urgent necessity of increasing the fire power of Sunderland aircraft led to a conference at Headquarters, Coastal Command, on 20th August

[1] Sqn Ldr P. R. Davenport, 403216. 461 Sqn, 235 Sqn RAF. Wool buyer; of Blakehurst, NSW; b. Sydney, 17 May 1918.

[2] F-O C. R. Croft, 403648; 461 Sqn. District offr N Guinea; of Newcastle, NSW; b. Newcastle, 22 Jun 1912. Killed in action 30 Aug 1943.

to review proposals submitted by individual squadrons. Further conferences followed at Pembroke Dock on 3rd September and at Mount Batten on 8th October when the final decisions for universal fitting were confined to important modifications developed by Nos. 10 and 461. These included the four fixed nose guns installed by No. 10; the FN5 twin-gun, belt-fed nose turret and the galley-hatch guns developed by No. 461. The superiority of the Australian projects lay in that they met not only the immediate need of self defence against fighter attack but also were an important offensive means against the main enemy, the U-boat, and thus were a valuable addition to Sunderlands in all theatres. The four fixed bow guns not only gave automatic smothering fire but also allowed the pilot to eliminate line error[3] when carrying out a depth-charge attack while at the same time these guns did not prevent, as did other suggested modifications, the fitting of the new Mark III low-level bombsight on which great hopes were laid for future attacks on U-boats.

While the *Luftwaffe* achieved only moderate success against Coastal Command aircraft during August, it produced a dramatic answer to the naval blockade of the Bay of Biscay. During the early afternoon of 25th August a mixed force of some eighteen Do-217's and Ju-88's approached the 40th Escort Group and made four abortive attacks against H.M.S. *Landguard* (previously a U.S. Coast Guard cutter) with radio-controlled glider-bombs.[4] Two days later these novel weapons achieved greater success, when the sloop *Egret* was hit and sank almost immediately, while the Canadian destroyer *Athabascan* was damaged. Despite this very serious threat to the safety of vessels cooperating in "Percussion" patrols, the escort groups continued to patrol the area until mid-September when they were withdrawn to the northern convoy routes. Doenitz also at this time used his increasing influence with Hitler to employ still more *Luftwaffe* resources in the sea battle despite the luke-warm attitude of Goering. All available long-range Ju-290 and He-177 aircraft were redeployed to search for Gibraltar and trans-Atlantic convoys so that U-boats and FW-200 bombers could make surprise attacks and themselves run minimum risks while searching or lying in wait on the convoy routes.

All indications thus pointed to a recrudescence of U-boat attacks on convoys probably timed for the new moon period in mid-September, but Coastal Command had no intention of easing the enemy task of marshalling his forces by any premature relaxation of flying over the transit routes, however unprofitable it appeared in terms of destruction of U-boats. Although flying was cancelled on thirteen nights and one day, No. 19 Group aircraft flew a record of 11,500 hours during September, the two R.A.A.F.

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[3] Bullet strikes on the water gave a similar effect to tracer bullets and the pilot was thus able to orientate himself accurately in relation to his target.

[4] The Henschel 293 jet-propelled, radio-controlled bomb normally carried by Do-217 aircraft was designed primarily for use against merchant shipping. The forward portion was a normal 500-kg S C bomb attached to an extension tube housing the control mechanism and tail unit with the jet unit suspended beneath this fuselage. Two vertical fins and a tail plane gave stability in flight. When the rocket was released from its parent aircraft, the rocket propulsion operated automatically and after dropping 100 feet the Hs-293 began flying at about 400 m.p.h. and could then be guided visually by a bomb aimer using a remote control apparatus. Wing span 11 ft. Wing area 26 sq-ft. Tail plane 3 ft 8 in.

Sunderland squadrons accounting for 1,285 hours. This formidable effort resulted in a mere eighteen sightings of U-boats and the only Australians fortunate enough to make positive contact with the enemy were those flying with No. 179 (Wellington Leigh light) Squadron based at Gibraltar. Flying Officer Senior[5] was wireless operator of a crew which had already on 24th August sunk *U134* off Cape Finisterre and which now made damaging attacks in the same area on 3rd and 6th September. Flight Sergeant Dix[6] of the same squadron made attacks on 9th and 24th September, although in the second instance his bomb doors were damaged by enemy gun fire and the depth-charges failed to release. The obviously greater opportunities for night attacks led to a swift conversion of other Wellington squadrons to these duties, and intensification of effort to equip Catalinas and Liberators with the Leigh light. As an interim measure on 29th September the "Percussion" patrol areas were again re-aligned in accordance with the "ribbon barrier" policy,[7] and the night-searching force included all Leigh-light aircraft, three Sunderland squadrons together with a proportion of the effort of Halifax and Liberator units. The primary function of Nos. 10 and 461 in this scheme was to help to saturate the area, force U-boats to dive and thus offer opportunity for attack by day patrols when they resurfaced. The R.A.A.F. pilots were to make the best attack they could in prevailing circumstances, but it was even more important that they should report accurately the position and course of any U-boat seen, so that it could be hunted by other aircraft better equipped with night-flying aids.

Before this change of policy Nos. 10 and 461 maintained day patrols unrelieved by any incident except the struggle with the *Luftwaffe*. On most occasions the Australians followed emergency tactical instructions and moved their patrols westward when enemy fighters were seen, but this prudence did not always spell safety. Flight Lieutenant Marrows of No. 461 met six Ju-88's on 16th September and after a running battle lasting forty-five minutes the Sunderland had only one engine and one gun turret still functioning, so Marrows had to make a forced landing in a twelve-foot sea. This magnificent feat of airmanship ended happily, for the entire crew was rescued next day by the 2nd Escort Group.

Not so fortunate, however, was a Sunderland of No. 10 which on 21st September transmitted an incomplete combat report and then failed to return to Mount Batten. A wide search for this aircraft revealed no trace of survivors, although earlier in the month both Australian squadrons had spent an appreciable number of patrols in successful air-sea rescue opera-

[5] F-Lt R. K. Senior, DFC, 408706; 179 Sqn RAF. School teacher; of Surrey Hills, Vic; b. Williamstown, Vic, 11 Apr 1915.

[6] F-Lt R. W. Dix, 401776. 502 and 179 Sqns RAF. Jeweller; of West Brunswick, Vic; b. Melbourne, 28 May 1917.

[7] The "barrier" depended on several factors. A U-boat could travel a certain distance in 24 hrs, the distance varying as to the proportion of time surfaced and submerged; whether it ran surfaced by day and submerged by night, or whether it remained entirely submerged except for the 4 or 5 hours in every 24 when it must surface to renew air supply and batteries. This latter was the current policy and a U-boat would thus average 3 knots for 20 hrs submerged plus 10 knots for 4 hrs surfaced—a daily advance of 115 miles along track. If sufficient aircraft could patrol constantly an area 115 miles wide athwart the U-boat transit paths, an opportunity must thus arise to attack every submarine on passage.

tions for other airmen lost in similar circumstances. In each case the final rescue was effected by naval vessels directed to the scene after intervals varying from a few hours to several days, during which time the Sunderlands kept in continuous contact with the dinghies. Another incidental duty which fell to the Australians in September was to attack fishing vessels which repeatedly defied warnings to keep clear of the vital patrol areas. The necessity of this action was regretted by all and certainly by the aircrews, who aimed their depth-charges well clear of the fishing vessels, or shot through the sails and rigging only, but it was more than ever vital under existing circumstances to have the areas searched at night free from any traffic except U-boats.[8]

The anticipated resumption of U-boat pack operations came on 19th September when nearly twenty U-boats closed in on convoys ONS-18 and ON-202 routed close together in mid-Atlantic. The Germans achieved tactical surprise by the introduction of a new acoustic torpedo which homed automatically on the noise of a ship's propellers. Doenitz hoped to overcome the very powerful naval and air defences of convoys with a new technique. "The boats were ordered to remain on the surface when attacked by enemy aircraft and cooperate in fighting off the attack. They were to attack and break up the destroyer screen with acoustic torpedoes and in the third phase of the battle attack the convoy now deprived of its protection." This plan succeeded in the initial attack insofar as the U-boats managed to remain surfaced despite limited air attack, and in the second phase sank three and disabled a fourth escort vessel. Only six out of sixty-five merchant vessels were sunk, however, in five nights before naval escorts transferred from the Bay and Liberators re-deployed to Iceland forced the U-boats to lose contact. Although two U-boats were sunk by Liberators and one by the destroyer H.M.S. *Keppel,* this minor victory for the enemy had serious implications especially as shipments of American troops and supplies to England in preparation for the assault on German-occupied Europe were attaining their peak. The obvious counter-measures included further redistribution of the air resources of No. 15 Group, so that Australians who had been patiently but uneventfully patrolling the Shetlands-Faeroes transit route,[9] now found themselves back in the grim but spectacular conditions and areas of the previous spring battles. Moreover a great diplomatic and strategic victory came on 8th October when Portugal gave permission to the Allies to build an anti-submarine base in the Azores Islands. Hudsons from Gibraltar and Nos. 206 and 220 (Flying Fortress) Squadrons from No. 19 Group were already operating from Terceira by the end of the month under the control of No. 247 Group, Coastal Command. Air cover by either shore-based or carrier-

[8] Operational Research Section estimated that the presence of fishing boats in the search area entailed a loss of 10% of the night air effort.

[9] In Jun 1943 *Catspaw I* and *II* were instituted and were designed to be equal in width to the channel used by U-boats and to be greater in length than the distances they could travel submerged in any 24-hr period. By coordination No. 18 Gp at Iceland provided 5 sorties to be flown in cooperation with destroyers of Home Fleet. For the expected seasonal increase of U-boat passage between Jul and Sep "Moorings", an area 120 miles square, was designated to establish as difficult a barrier as possible in the prevailing conditions of "no darkness". These patrols were not as efficient as had been hoped and "Moorings" was cancelled in Nov.

borne aircraft was now possible over all the North Atlantic north of latitude 30 degrees north and this permitted wide scope in the routeing of convoys, of tremendous importance in evading U-boats, especially as despite all efforts, *Luftwaffe* reconnaissance on behalf of the German Navy remained ineffective beyond relatively short range.[1]

Before No. 247 Group was ready for operations, the Germans had made their attempt to block the main northern convoy route, a large pack assembling south of Iceland to await a convoy which left Nova Scotia on 28th September. These waiting U-boats were severely harassed from the air and two were sunk on 4th October, while a third, *U389,* was destroyed next day by Flight Sergeant Allsop[2] of No. 269 Squadron. Allsop was piloting a Hudson aircraft which had been modified to carry 60-lb rocket projectiles instead of depth-charges and attacked immediately when he found the submarine fully surfaced south-west of Iceland. He dived through a considerable barrage of small-calibre cannon fire and at 800 yards' range fired one pair of rockets which seemed to unnerve the enemy gunners. As he closed on the enemy Allsop fired his other three pairs of rockets, all of which scored hits above or below the waterline. The U-boat attempted to zigzag but stopped with its entire forward half enveloped in light blue smoke. Shortly afterwards the stern rose high in the air and the hull slid under water.

These three successes were all gained before the convoy reached the danger area, and strong air and naval escorts prevented the enemy from gaining contact until the early hours of 8th October when the Polish destroyer *Orkan* was torpedoed and sank stern first. Five Liberators and four Sunderlands gave close escort to the convoy throughout daylight hours on 8th October and effectively prevented the U-boats from proceeding any further with their obvious plan to dispose of the escorts and then sink the merchantmen at leisure. Flying Officer Webb and Warrant Officer Craine[3] were the navigator and wireless operator of R/86, the first Liberator patrolling at visibility distance round the convoy, when shortly before 9 a.m. Craine reported a wake six miles on the starboard bow. The captain made an immediate but unsuccessful attack twelve seconds after the U-boat dived, and was then ordered by the senior naval officer to resume patrol.[4] The Liberator returned to this position an hour later and again caught the U-boat surfaced, this time sinking it with the two remaining depth-charges. Three destroyers arrived at 10.20 a.m. to pick up the sole German survivor who confirmed that both attacks had in fact been made against the same submarine (*U419*).

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[1] Doenitz had prevailed in securing BV-222, Ju-290 and He-177 aircraft, all very-long-range types, but he could not train efficient crews. Similar though smaller difficulties in relation to navigation, search, ship recognition and reporting procedure had earlier been experienced by Coastal Cd when RAF sqns trained for bombing duties had temporarily joined in the war at sea.

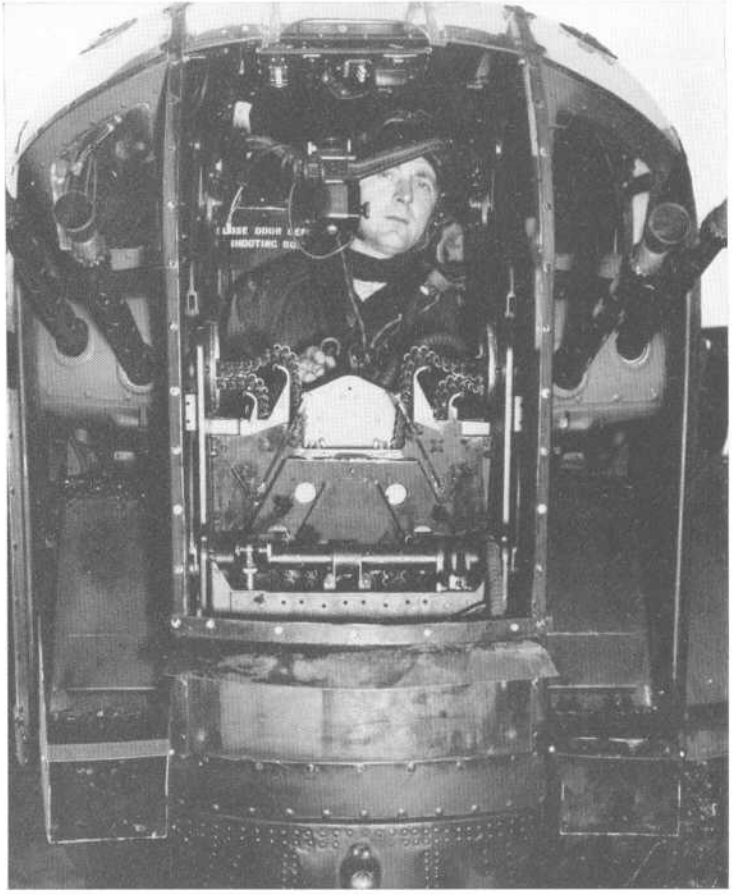
[2] F-Lt G. C. Allsop, DFM, 408945. 269 Sqn RAF, 23 and 25 Sqns SAAF. Salesman; of Werribee, Vic; b. Werribee, 16 Nov 1920.

[3] F-O A. R. Craine, 404496. 220, 86 and 224 Sqns RAF. Bacon curer; of Lismore, NSW; b. Lismore, 16 Feb 1914. Killed in action 12 Aug 1944.

[4] The SNO was in charge of the over-all defence of each convoy. Aircraft reported on arrival and were given specific patrol patterns to fly.

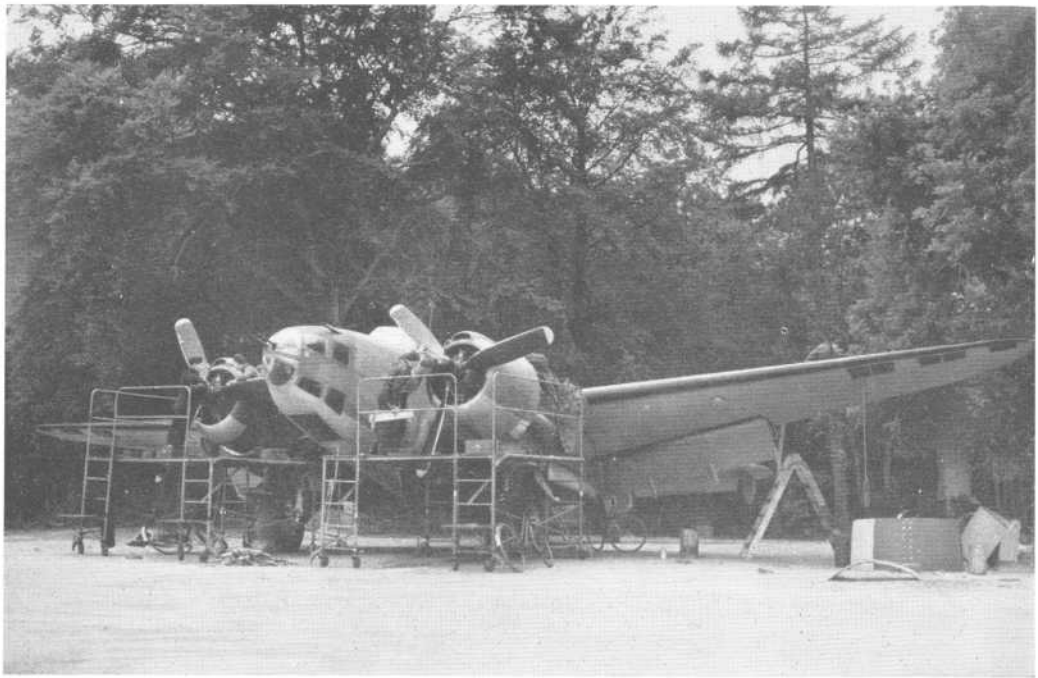
(R.A.A.F.)

On 8th January 1944 machine-gun fire from a Sunderland of No. 10 Squadron, captained by F-O J. P. Roberts, silenced the battery of one 30-mm and four 20-mm guns on *U426*, a 500-ton boat which is sinking by the stern after the initial depth-charge attack. A German gunner floats in the sea.



(R.A.A.F.)

By 1943 the importance of gunners was fully, albeit belatedly, realised by both Bomber and Coastal Commands. Here F-O E. H. Giersch, an experienced air gunner, is in a four-gun (.303-in) Nash and Thompson hydraulically-operated rear turret of a No. 463 Squadron Lancaster. Giersch has removed the central plastic panel which, although exposing the occupant to intense cold, gives a much clearer view.



(*R.A.A.F.*)

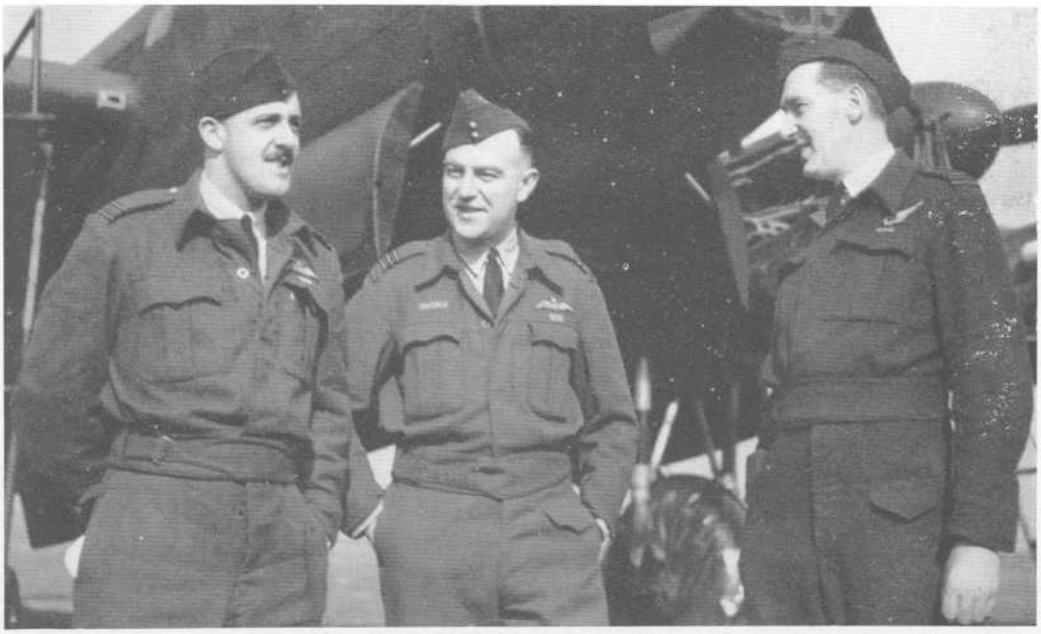
At Methwold airfield, Norfolk, Australian mechanics of No. 464 Squadron inspect the engines of a Ventura bomber.

(*R.A.A.F.*)

A ground crew of No. 467 Squadron replace a Lancaster's wheel. Left to right: Sgt B. R. Dalby; AC1 F. A. Holland (R.A.F.); Cpl J. K. Fussell.

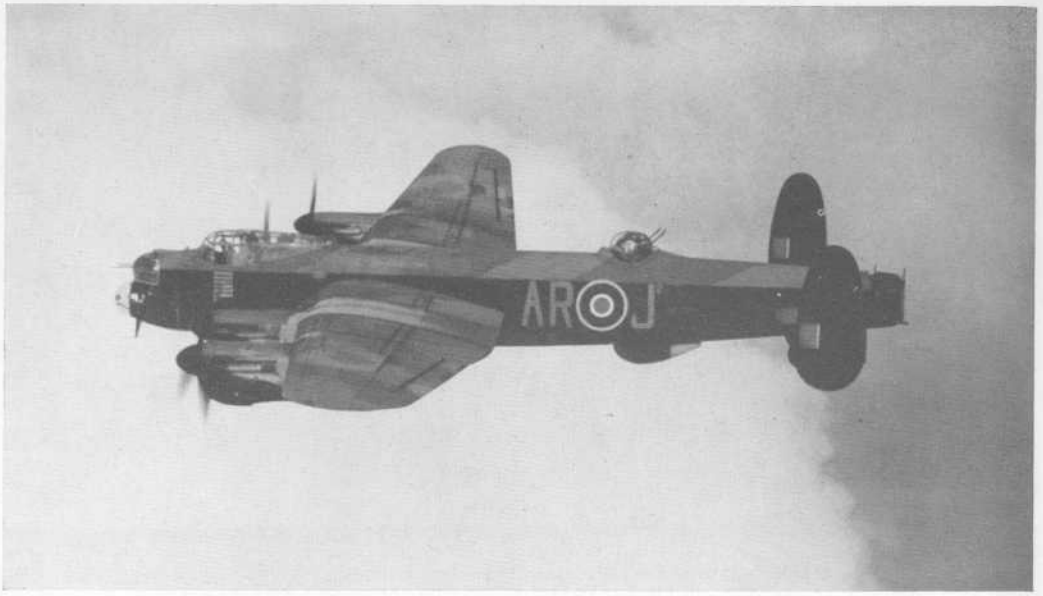
(*R.A.A.F.*)

Air Chief Marshal Sir Arthur Harris, air officer commanding-in-chief, Bomber Command, visiting R.A.F. Station Binbrook (where No. 460 Squadron was located), in September 1943. He is followed by Air Vice-Marshal E. A. B. Rice, commander of No. 1 Group and the commander of Binbrook, Group Captain H. I. Edwards, V.C.



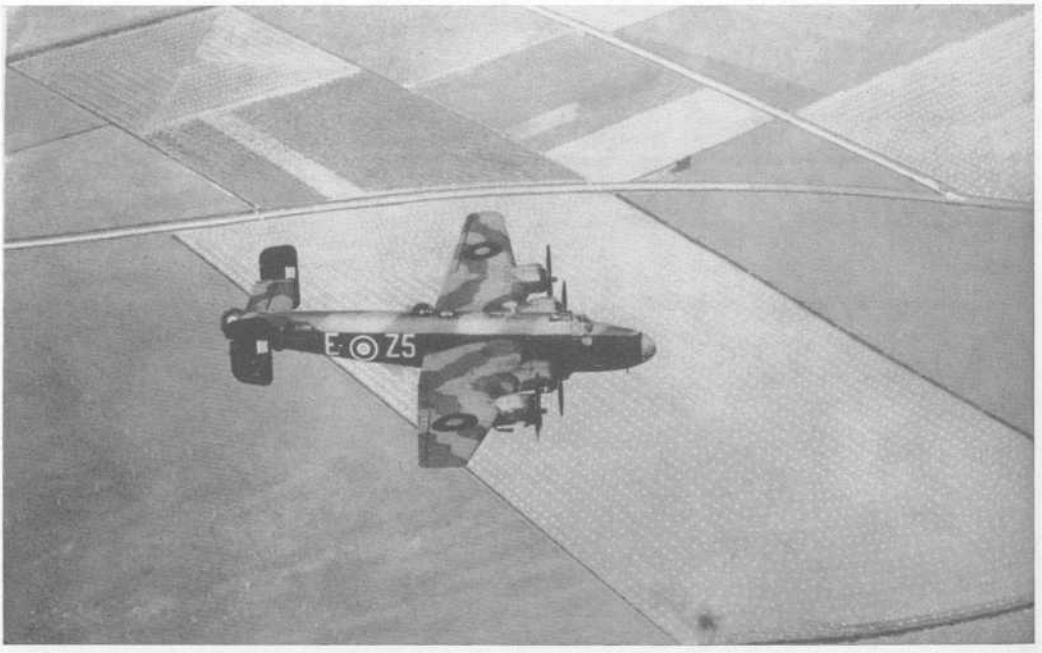
(*R.A.A.F.*)

By 1943 some Empire Air Scheme graduates were commanding squadrons. At No. 460 Squadron in September 1943, left to right: Sqn Ldr K. D. Baird (flight commander); W Cdr R. A. Norman (commanding officer); Sqn Ldr F. A. Arthur (flight commander). Norman was shot down and captured on 8th October and his place was taken by Arthur, who thus became the first Australian navigator to command a squadron.



(*R.A.A.F.*)

A Lancaster of No. 460 Squadron. Beneath the mid-upper turret is the dome-like housing for the revolving aerial of the H2S equipment. The rear turret is turned completely to starboard.



(*R.A.A.F.*)

A Halifax (Mark III) of No. 466 Squadron over English farmland. Superficially the Lancaster and the Halifax were alike, representing the solution of two different designers to a specification prepared by the Air Ministry in the late 'thirties. Compared with the Lancaster, for instance, the Halifax Mark III had Bristol Hercules radial engines instead of Rolls Royce Merlins; a four-gun mid-upper turret instead of a two-gun; and the Halifax did not carry a nose turret. In all-round performance the Lancaster was superior to the Halifax.

Webb and Craine had further excitement after resuming patrol for, at 11.10 a.m. another U-boat was discovered, and while R/86 circled and engaged the enemy with gun fire, Z/86 captained by Flying Officer Burcher was homed to this position, some thirty miles astern of the convoy. Immediately the second Liberator appeared the enemy dived and Burcher's attack, made twenty-seven seconds after the target submerged, failed to inflict damage. The position was marked, however, and again "baiting procedure" was adopted, so that when Burcher returned an hour later the U-boat had unwisely surfaced once more (in an effort to keep in contact wth the convoy) and was already under attack from another Liberator (T/120). Twenty seconds later Burcher ran in at right angles to the enemy's course, and although all available guns were quickly turned against him, he dropped his depth-charges accurately across the U-boat. As he circled to observe results T/120 made a further damaging attack, and both Liberators then made four approaches to machine-gun the U-boat, which had hove-to, listing and badly down by the bows. When Burcher was forced to break off and return to base, the U-boat crew were huddled with dinghies and life jackets on the deck of their sinking vessel, but T/120 remained long enough to see *U643* rent by a terrific internal explosion forward of the conning tower, after which it sank immediately. Further air attacks near SC-143 on the same day led to the sinking of a third U-boat, and, after the loss of a solitary merchant vessel at dawn the next morning, the convoy reached England on 11th October without further enemy attacks.

The first ten days of October thus cost the German Navy six U-boats in return for one destroyer and one merchantman, but nevertheless a strong pack assembled in the path of ON-206, a convoy of fifty-six vessels with seven escort ships which entered the danger area south of Iceland late on 15th October, at the same time as a second convoy ONS-20 which lay sixty miles to the south. Again close air cover was provided for both convoys commencing at dawn on 16th October and aircraft were soon attacking U-boats stationed on the fringes of the convoys. Two U-boats were sunk during the morning and the same evening Pilot Officer Loney[5] of No. 59 joined two Liberators of No. 120 in a protracted engagement which ended in the destruction of *U470*. Late that night a merchant ship straggling astern of the convoy was torpedoed but this was the only enemy success. The U-boats hung grimly on to the slower ONS-20 even though three more of their number were destroyed by air and surface attack on 17th October, but failed to close within striking distance and withdrew two days later. In other air operations during the month in defence of North Atlantic convoy routes a further eight U-boats were sunk, making a total for that area of twenty out of the twenty-six U-boats lost in all waters. Doenitz realised that the premise of U-boats remaining surfaced and beating off air attack had been unwarrantably optimistic and that once more it would be necessary to withdraw from the North Atlantic. "It was

[5] F-Lt W. G. Loney, DFC, 400279; 59 Sqn. Clerk; of Carnegie, Vic; b. Rutherglen, Vic, 12 Nov 1921.

therefore finally clear that surface warfare for U-boats had come to an end. It was now a matter of filling in time till the new types should be ready for action."[6]

The revised "Percussion" patrols were meanwhile proving no more effective than previously for although Nos. 10 and 461 flew 1,058 hours on operations during October they made no sightings. To lengthen time spent in the patrol area proper the duration of each Sunderland sortie was increased to thirteen hours by a reduction in depth-charges from eight to five,[7] but carrying only radar aids well known to the enemy, the Sunderlands were at best acting in a "scarecrow" role. Six of the seven attacks on U-boats actually made in the "Percussion" area during October were by Leigh-light Wellingtons and none was finally successful although on 8th October Pilot Officer Paynter[8] of No. 612 Squadron illuminated and straddled with six depth-charges a fully-surfaced U-boat which fought back desperately with multiple anti-aircraft guns.

These Wellingtons were the only type capable of efficient night patrols at this time, but their range and endurance were relatively low. The virtual stalemate between radar-search and radar-assisted evasion thus continued in the Bay[9] and with deteriorating weather, interference from enemy fighters slackened considerably, although one Sunderland of No. 10 failed to return from patrol on 2nd October. This lack of positive success was far from welcome to the aircrews and they accordingly entered keenly into a renewed drive for training. No. 461 made over seventy flights during October to increase crew efficiency in bombing and gunnery while on 6th October a radar homing buoy was made available in St Bride's Bay for special training in mock attacks. This buoy produced a radar pulse simulating a U-boat and all night-flying squadrons made extensive use of this facility until the end of the war. No. 10 which, in addition to having an autonomous maintenance section, also trained completely all its operational crews, brought into use at this time a synthetic procedure training device constructed during leisure hours by Flight Lieutenant Gillies, and this proved especially valuable in keeping navigators and wireless operators conversant with the ever-changing and ever-complicated operational procedures. There was certainly no apathy but only a sense of frustration among crews who looked forward confidently to the time when further opportunities to attack would certainly arise.

Conditions hardly changed over the Bay during November, however, for although the "Percussion" patrols were again moved to more favourable areas only eight U-boats were sighted—an average effort of 1,240 hours

[6] This attack against ONS-20 was the last attempt against a trans-Atlantic convoy. Doenitz made a last effort to revive convoy war in Nov 1943 when he concentrated a large pack against a convoy north-bound between the Azores and Portugal. Surface and air escort (in particular night air escort) held the U-boats off and inflicted casualties with no loss to the convoy. This reverse finally convinced Doenitz that the day of the wolf pack was over.

[7] In the case of 10 Sqn which always removed the unused trailing-edge tanks, 6 DC's could still be carried—a stick more acceptable to the pilot.

[8] F-Lt M. H. Paynter, DFC, 407752. 58 and 612 Sqns RAF. Commercial traveller; of Westbourne Park, SA; b. Westbourne Park, 14 Mar 1918.

[9] The U-boat traffic through the Bay was 62 passages during Sep and 67 during Oct.

on patrol for each sighting, although the sinking of two U-boats did mitigate the expenditure of such a tremendous effort. The Australian contribution was somewhat curtailed as No. 10 had three crews absent undergoing special radar courses but the Sunderland patrols whether by night or on the new dawn sweeps encountered nothing except appalling weather and enemy fighters. On 9th November Flying Officer Dobson[1] of No. 461 sustained nine attacks by four Ju-88's before he had withdrawn some seventy miles to the westward and the enemy abandoned the chase.

At the very end of the month Flight Lieutenant Clark[2] of No. 10 had been on patrol for nine hours when he was surrounded by six Ju-88's with the nearest cloud cover at least twenty miles distant. Clark and two of his gunners were wounded early in the engagement and among other heavy damage the throttle controls for three engines were shot away. Nevertheless, after twenty minutes, during which two of the repeatedly attacking Junkers were also damaged, the Sunderland reached the safety of cloud. Unable to reduce his engine revolutions to economical cruising speed Clark was now faced with the probability that his fuel would quickly be consumed, but eventually he made a successful landing a few miles short of base despite his injuries, and the aircraft was towed into Plymouth. Casualties continued to be high, however, for one Sunderland from each squadron was shot down during the month and widespread searches failed to discover any survivors.

Another near tragedy was only averted on 11th November by consummate airmanship on the part of Flight Lieutenant Williams (No. 10) when outward-bound for a "Percussion" patrol. The Sunderland was 150 miles from base when the starboard-inner engine failed and Williams had barely time to turn on a reciprocal course when the bridge filled with smoke and the starboard-inner propeller sheared off at the reduction gear, struck the starboard-outer propeller and both flew off into space. The Sunderland lost height rapidly and was almost at sea level before Williams succeeded in levelling out with himself and his first pilot applying full port rudder and three-quarter aileron control to hold against the madly-racing port engines which barely kept the aircraft flying at all. Depth-charges, guns, ammunition, tools, 1,000 gallons of fuel and every loose article except the air-sea rescue packs were jettisoned in an attempt to maintain height. This fearful battle with the controls continued for forty minutes with the constant fear that one of the remaining engines would also fail before a successful landing was made at the Scilly Isles. Even this great deliverance was marred by the serious wound sustained by Sergeant Burleigh[3] while the guns were being thrown overboard. One gun, not correctly unloaded, fell and fired on impact; a bullet hit Burleigh in the left knee and this wound proved fatal some five weeks later.

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[1] F-Lt J. S. B. Dobson, 411298. 461 and 37 Sqns. Clerk; of Scone, NSW; b. Scone, 6 Jun 1918.

[2] F-Lt C. C. Clark, DFC, 411679. 10 and 37 Sqns. Butcher; of Muswellbrook, NSW; b. Muswellbrook, 19 Nov 1917.

[3] Sgt H. K. Burleigh, 49216; 10 Sqn. Bank clerk; of Kerang, Vic; b. Yan Yean, Vic, 20 Sep 1921. Died of wound 15 Dec 1943.

Enemy U-boats made no real attempt to attack shipping in the North Atlantic during November 1943, in fact no Allied ships were lost in that area but nevertheless eight U-boats were destroyed while waiting along the convoy routes. Five of these fell victims to naval convoy escorts or support groups; but, on 16th November, Flying Officer Bookless of No. 86, while patrolling round a convoy, sank *U280*. His first approach was made in the face of heavy gun fire which crippled one engine and extensively damaged the leading edge of the Liberator's port wing, so that the depth-charges overshot. A determined second attack was more successful, the depth-charges landing close to the enemy's hull, and, although the U-boat submerged on an even keel, apparently only damaged, it foundered soon afterwards. However, the era of good hunting by day had passed, and, except when weather prevented air patrols, U-boats rarely ventured on the surface by day; nor even when violent December gales disorganised and scattered convoys did the enemy profit much even from night operations. Only eight ships were lost in the North Atlantic during December, mostly in chance encounters, for without freedom of movement the U-boats could make little deliberate reconnaissance for suitable targets. The appalling weather militated equally against air operations and, although four U-boats were destroyed in the North Atlantic, none of them fell to land-based aircraft.

Flying over the Bay of Biscay was similarly hampered during December and thirty-five of the 113 sorties flown by Nos. 10 and 461 were curtailed by climatic conditions, another twenty sorties were partially ineffective due to technical failures, and all flying had to be cancelled on six days. The same factors affected other squadrons of No. 19 Group in like degree, so that it was impossible to keep a wholly satisfactory continuous watch on the "Percussion" area, with the result that U-boats slipped in and out of the Bay by using the utmost caution. Each of the R.A.A.F. squadrons sighted one U-boat, the first seen by either for over four months, but each U-boat was well submerged before any attack could be made. Crews were heartened, however, by instructions to watch for blockade runners on passage from Japan which were expected to enter the Bay under cover of wintry conditions, and on 23rd December an unidentified ship was reported in the Outer Approaches. That night aircraft on "Percussion" patrols received radar responses of a force of destroyers, possibly accompanied by a merchant ship, moving westward to meet the inward-bound blockade runner, and these two forces joined company shortly after noon on 24th December, immediately turning eastwards. The formidable enemy escort then consisted of five *Narvik*-class destroyers and three *Elbing*-class destroyers and consequently individual aircraft were forbidden to attack. Two Sunderlands of No. 461 shadowed the force during the afternoon, and other aircraft maintained contact during the night. The weather on Christmas morning was unfavourable for flying and there was a break in reconnaissance before a Beaufighter strike wing was dispatched during the afternoon. This delay proved costly as the Beaufighters could not find

the target, and before another large strike could be mounted the blockade runner and its escorts were safely at Bordeaux.

This initial failure, however, made all squadrons and naval units even more keen to destroy the next ship, expected to follow after an interval of four days—the necessary turn round time for the German escorts. The *Alsterufer* was actually sighted early on 27th December steaming eastwards at 15 knots and was shadowed throughout the morning by Sunderlands. Burcher in Liberator F/86 took over shadowing duties at 2.30 p.m. and remained circling and homing strike aircraft. A Czech Liberator (H/311) arrived shortly after 4 p.m. and made an immediate rocket-projectile and bombing attack which caused a large fire on the stern of the *Alsterufer.* This aircraft was badly damaged and had to withdraw but Burcher continued to shadow until 5.15 p.m. when the ship was well alight and about seventy survivors had taken to life-boats. He was then instructed to bomb the burning vessel before returning to base. The air search was now adjusted to meet the possibility of British cruisers bringing to action the German escort force which would almost certainly be on its way to rendezvous with the sunk *Alsterufer.* American Liberators made the first contact with a west-bound destroyer force at 9.30 a.m. on 28th December, but as these ships turned about and contradictory position reports were given by other aircraft making contact, there was some doubt whether the cruisers *Glasgow* and *Enterprise* would be able to intercept them at all. However, at 11.30 a.m. a Sunderland of No. 10 reported that the enemy was in fact west of the previous estimates, and, in view of the crews' experience, this new position was accepted by naval authorities. Two hours later the British cruisers came up with the German force and finally sank one *Narvik-* and two *Elbing*-class destroyers before the enemy split into small groups and withdrew at high speed towards their bases.

Air patrols continued from the Azores and England until 6th January 1944 when it was learned that the one remaining blockade runner (the *Weserland*) had already been sunk by American naval forces in the South Pacific. There was no attempt to sail any of the potential eastward-bound ships lying in French harbours and under constant check by photographic reconnaissance aircraft of Coastal Command. Indeed, although weather and human errors at one stage threatened to nullify the blockade, Coastal Command patrols had proved themselves strong enough to bar effectively any German hope of a resumption of trade with Japan.[4]

This severing of Germany's one sea link with the outside world emphasised the degree to which the original aggressor was now forced to purely defensive measures. Although the year ended quietly as far as the war at sea was concerned, Coastal Command and the forces acting in conjunction with it had admirably fulfilled the task laid down at Casablanca of defeating the U-boat threat as a necessary preliminary to full-scale attack

[4] *Fuehrer Naval Conferences 1944,* p. 9, 18 Jan 1944. Hitler "believes that the plan has so little chance of succeeding that even the importance of supporting Japan plays no part here, since the ships will never reach that country anyway . . . . He decides that no surface blockade runners are to leave port and thereby specifically abandons all intentions of importing raw materials from Japan . . . ."

on Germany. Up to April 1943 there had appeared a great danger that the enemy would achieve his aim of severing the vital North Atlantic supply routes, but thereafter the power of the U-boat ebbed and though still numerically strong the U-boat fleet was held in check by more powerful defences.[5] Both sides now realised that the U-boat would be employed mainly in a defensive role, partly to harass and preoccupy as large a part as possible of the Allied air and naval resources, and partly to operate against shipping used in the invasion of Europe which was tacitly expected in the spring or summer of 1944. The war at sea from being a major offensive declined into a mere "holding campaign" while the protagonists made preparations for the decisive clash. On the one hand Doenitz, while losing no tactical opportunity to create diversions with U-boats in as many oceans as possible, retained the bulk of his trained crews in the five Biscay ports at instant readiness. He also speeded up, with the help of Albert Speer (munitions minister), the erection of new prefabricated U-boats of revolutionary design and high under-water speed, introducing as a stop gap the *Schnorkel,* an extensible air tube which permitted U-boats to operate on diesel engines below the surface, thus giving them a submerged speed of 6 knots and virtual immunity from radar detection because they no longer needed to surface for recharging batteries. The general nature of these innovations was well known to the Allies who prepared various counter-measures, and again increased the training facilities for all squadrons so that any resurgence of U-boat activity could be promptly met.

That the R.A.A.F. Sunderland squadrons fully realised the importance of training so that the most could be made of every opportunity was well illustrated in January 1944. All except two of the sorties flown produced nothing except a wearisome painstaking search with a high incidence of early returns due to engine trouble, bad weather, or warning of enemy fighters. The two exceptions, however, fired anew the enthusiasm and determination of all. On 8th January Flying Officer Roberts[6] of No. 10 was engaged in a day "Percussion" patrol and was flying at 4,300 feet to make best use of the excellent visibility, when he sighted a 500-ton U-boat twelve miles away outward-bound. Roberts dived to intercept and at a range of five miles the enemy opened fire with a fully-automatic 30-mm gun and four 20-mm cannon. This new armament probably encouraged the U-boat captain to fight instead of submerging, but Roberts closed to 1,200 yards and then employed his four fixed bow machine-guns whose withering fire struck down the enemy gunners. This first approach failed as the depth-charge trolley jammed, but, before the U-boat could either dive or reopen fire, Roberts banked steeply and attacked from the starboard quarter. Six depth-charges fell near the *U426,* which lost way, listed and began to sink by the stern. One more machine-gun attack was made by the Sunder-

[5] At the beginning of 1944 Germany disposed 446 U-boats: 168 at operational stns, 186 on acceptance trials and 92 used for training purposes.

[6] F-Lt J. P. Roberts, DFC, 413931; 10 Sqn. Accountant; of Northwood, NSW; b. Marrickville, NSW, 24 Jul 1915.

land but the German crew quickly abandoned their vessel and within a few minutes it had slid from view. The bow guns evolved by No. 10 had more than justified themselves in use, and apart from the natural joy at positive success the Australians looked forward with greater confidence to any future occasion when a U-boat, however heavily armed, might attempt to fight back.

The brief spell of fine weather ended abruptly after this incident, and, with the whole North Atlantic in the grip of storms and low cloud, the U-boats returned to the tactics of 1941 and began to close in towards the convoy terminals in the North-Western Approaches. Whenever landplanes could not take off, the Sunderlands were pressed into use for close convoy protection, and it was while thus engaged south-west of Ireland on 28th January that Flight Lieutenant Lucas[7] of No. 461 sighted and sank *U571*. Again the U-boat, northward-bound, made no attempt to dive but its gunners were silenced during a first unsuccessful approach and the submarine disintegrated one minute after Lucas made a superb attack with his two remaining depth-charges. After the long patient but empty months of negative patrols, Lucas and Roberts displayed the prompt, almost-instinctive coordination and efficiency which had been learned in constant training, and, with this magnificent omen of two indisputable "kills" from two opportunities, the R.A.A.F. squadrons redoubled their efforts to bring every crew to a like pitch. Equally well-executed and resolute were two attacks made by Loney of No. 59 on 13th January several hundred miles south-west of Ireland. As in the other two cases, the German gunners were killed or driven from their posts and although well-placed depth-charges apparently failed to sink this U-boat, it eventually submerged in obvious difficulties and was probably incapable of continuing its patrol.

January also saw the departure from Mount Batten of the first two of six Sunderlands purchased in England for R.A.A.F. employment in the South-West Pacific.[8] Although extremely busy with normal operational requirements and the special modifications which it pioneered, the maintenance section of No. 10 gladly undertook the task of preparing these six aircraft for the transit flight through tropical conditions. Crews for this great venture were carefully chosen, largely from among tour-expired members of Nos. 10 and 461; Squadron Leader Egerton and Flight Lieutenant Rossiter piloting the two Sunderlands which left on 27th January. Flight Lieutenant Hugall[9] of No. 201 R.A.F. and Squadron Leader Smith of No. 461 led the second flight which departed on 14th February. Flight Lieutenant Marrows and Wing Commander Rice[1] flew with the rearguard party on 1st March.

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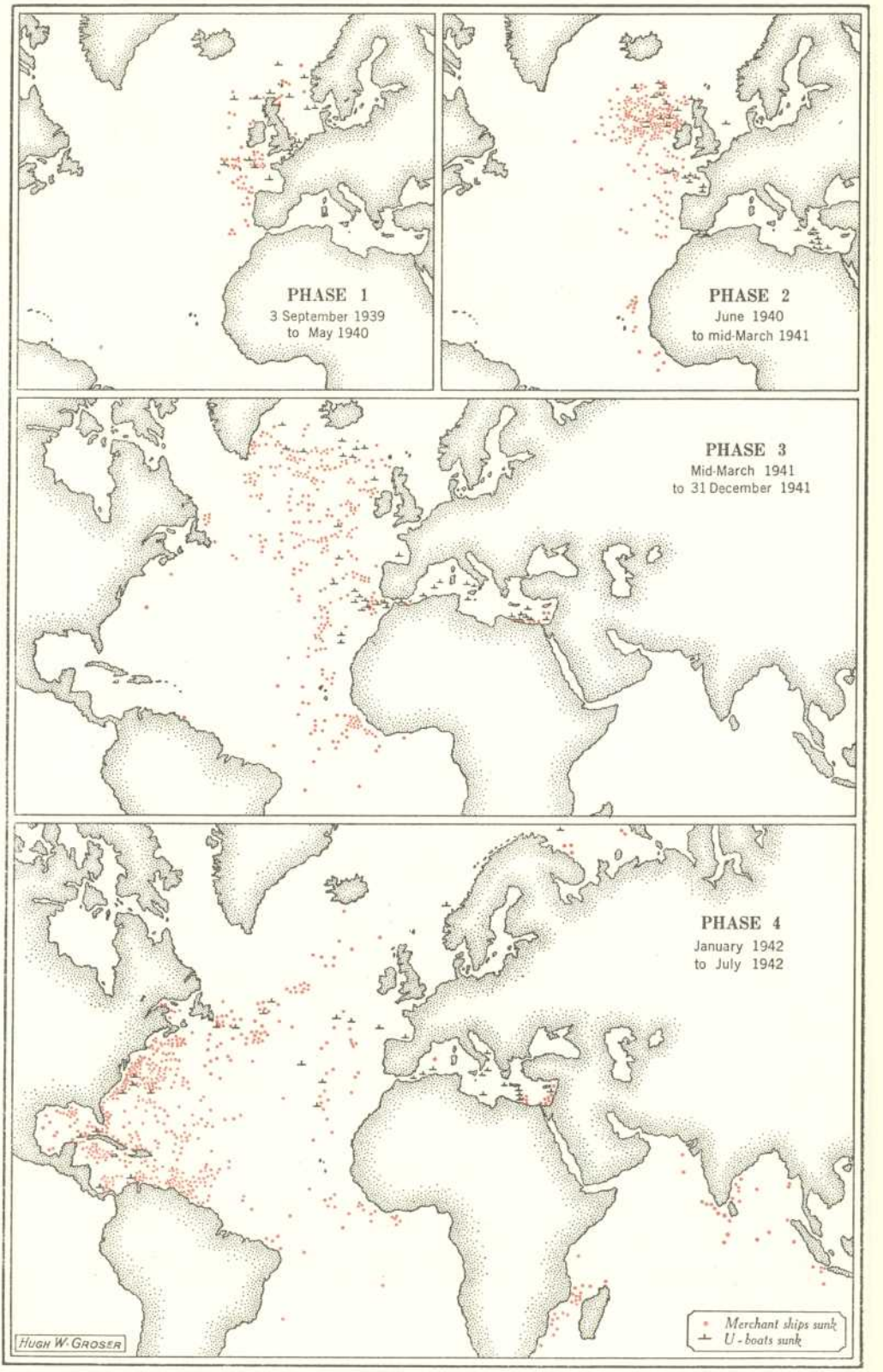
[7] F-Lt R. D. Lucas, DFC, 420692. 461 Sqn, 246 Sqn RAF. Clerk; of Sydney; b. Sydney, 27 Sep 1922.

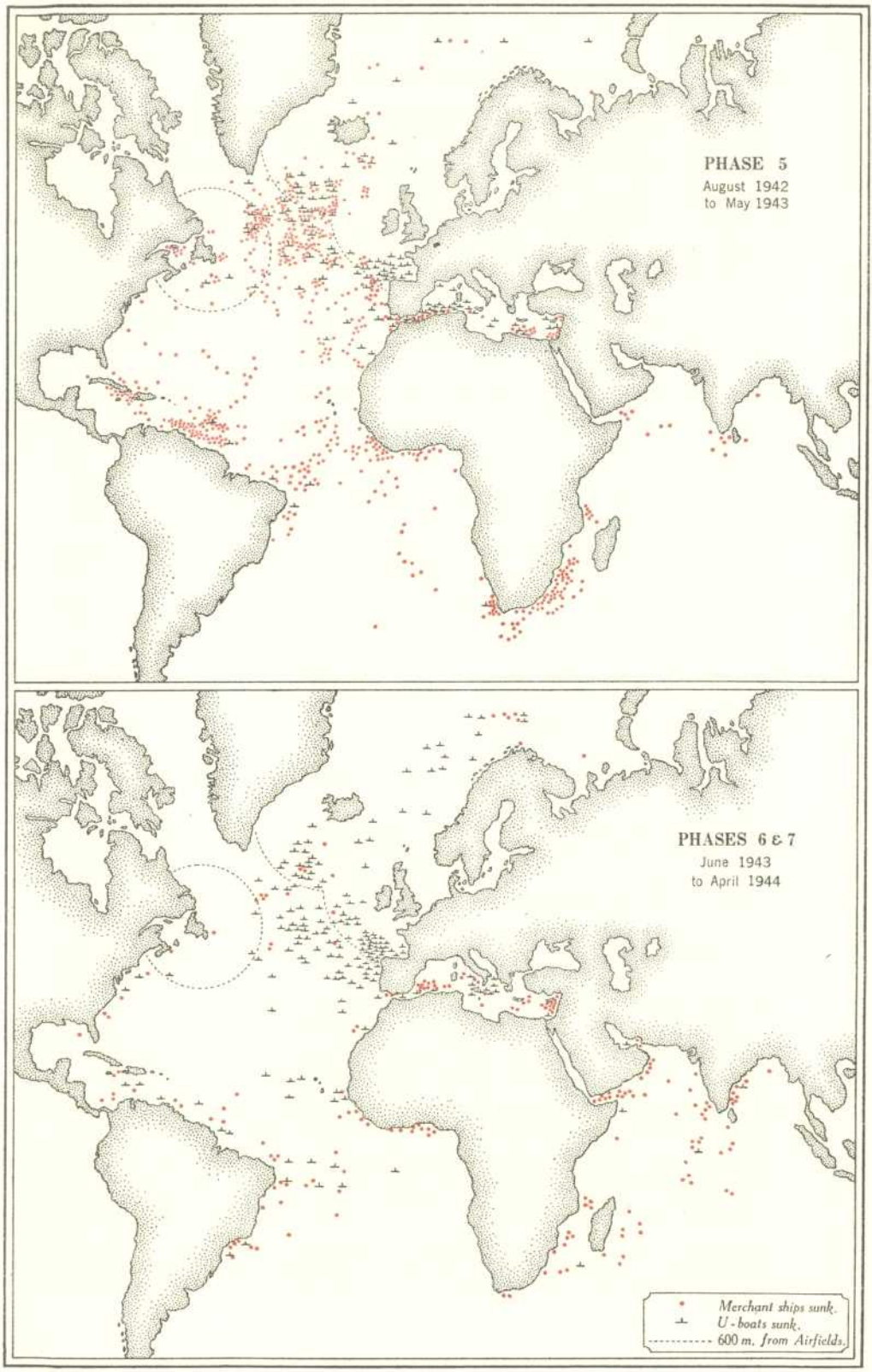
[8] On reaching Australia the aircraft and crews were used on transport duties.

[9] F-Lt C. B. Hugall, 406357. 423 Sqn RCAF, 204 and 201 Sqns RAF, 40 Sqn. Accountant; of Fremantle, WA; b. Fremantle, 12 Jan 1914.

[1] W Cdr R. S. Rice, 287. 10 Sqn; comd 2 Flying-Boat Repair Depot 1944, 1 FBRD 1944-45; Dep Dir Rpr and Maintenance RAAF HQ 1945. Regular air force offr; of Lismore, NSW; b. Dungog, NSW, 19 Mar 1917.



Phases of the U-boat war: September 1939-July 1942.



Phases of the U-boat war: August 1942-April 1944.

Rice had been the engineering officer of No. 10 Squadron since October 1941 and to his happy cooperation both with the flying crews and the maintenance personnel can be ascribed the phenomenal serviceability rate maintained at Mount Batten. No. 10 had never relied (as did No. 461) on R.A.F. resources even for major inspections or overhauls, and overcame delays by a "garage" system of replacing whole units needing attention in preference to grounding an aircraft while repairs were made on the spot. Because Sunderlands manufactured by Short Brothers and Blackburn's had noticeable differences in engine layout, it was the practice immediately on receiving a new aircraft to modify it to a standard type into which universal replacement parts could be fitted with or without extensions devised where necessary in the squadron workshops. At this initial overhaul all equipment or fittings not required for use in the Bay were removed, and an ideal operational type of boat was provided for the conditions under which the pilots actually flew.[2] When in 1943 Coastal Command extended the "Planned Flying and Planned Maintenance" scheme to flying-boat squadrons, No. 10 found that the "planned flying" which entailed an optimum use of aircraft could be executed easily without altering at all its existing maintenance provisions. No. 461 frequently had to wait long periods for the return of Sunderlands sent away for major inspections under R.A.F. grouped facilities, but, at Mount Batten, pride in their own ability and system, inspiring leadership from N.C.O's and the squadron and station commanders, and close interest and fellowship with the aircrews, encouraged the maintenance personnel to work devotedly long hours when necessary to keep all aircraft available for operations. This exceptional performance was maintained, although alone among the flying-boat bases, Mount Batten became subject late in 1943 to recurrent enemy air raids.

The more personal feeling which animated all ranks at Mount Batten owed much to the influence of Group Captain Alexander, who, as squadron commander of No. 10 in the latter half of 1942, and then commander of R.A.F. Station Mount Batten, brought an intimate knowledge of operations and wise administrative qualities to the task of maintaining No. 10 as an extremely efficient unit. He was, at this time, successfully initiating another modification to the Sunderland aircraft of vital importance to all aircrews. The Pegasus engines (frequently reconditioned after use with Bomber Command), which powered the Sunderland, had become increasingly unequal to their task with every increase in over-all operational weight and range. Frequent engine failure during flight had progressively threatened the maintenance of patrols, and as fully-feathering propellers were not fitted, over-heated engines often seized and propellers sheared off frequently causing further structural damage to the aircraft. Even in safe areas this was an inordinate risk, but for flights over the enemy-patrolled Bay of Biscay it placed aircrews at a tremendous disadvantage.

[2] This procedure was possible as the Sunderlands were the property of the RAAF. No. 461 using RAF equipment could not for example remove the trailing-edge tanks to increase payload, because though not used in the Bay these tanks were part of the "standard" RAF Sunderland which must be maintained fit for immediate use in any theatre.

Even with the greatest care in maintenance the condition of engines received had fallen below an acceptable standard, and in September 1943 one new Sunderland had seven engines replaced before it successfully completed a sortie. Alexander now proposed that Pratt and Whitney engines with fully-feathering propellers should replace the Pegasus type. Similar suggestions had previously been passively rejected on the score that the Sunderland mainplane would not bear the stress of the more powerful engines; but with quiet persistence, Alexander finally secured approval to modify one Sunderland at Mount Batten, and moreover Short Brothers then also agreed to prepare a new prototype.

With less rigorous weather during February and March the R.A.A.F. Sunderlands steadily increased their effort to 105 sorties in February and 132 in March. In the latter month No. 10, with 890 hours on operations and 254 hours spent in training, again broke the record for a Sunderland squadron. This notable contribution to the ever-increasing pressure exerted by Coastal Command was not rewarded by positive action against the enemy, for with the return of good flying conditions the U-boats had swiftly retreated into mid-Atlantic and were again surfacing only at night when within range of shore-based aircraft. The only Australian to encounter a U-boat was Paynter of No. 612 then operating from Limavady. On 10th February he was patrolling at 600 feet when his radar operator reported a contact seven miles away on the starboard beam. Paynter descended to 200 feet and sighted the enemy by moonlight at a range of just over one mile, so, without switching on his Leigh light, he made an immediate surprise attack before the U-boat could open fire. As the Wellington swept over, the rear gunner saw the U-boat silhouetted against the earlier depth-charge plumes before it was obliterated by the rest of the stick, and *U545* was sinking rapidly when Paynter flew overhead three minutes later. This action took place in the North-Western Approaches, and although forty-five German U-boats were sunk in all areas during February and March, they fell victims mainly to naval attack, and the only one sunk in the Bay of Biscay was the result of a novel air experiment unconnected with the main blockade patrols. This one air success was on 25th March when two special "tsetse" Mosquitos of No. 248 armed with six-pounder guns sank *U976*. The Mosquito could penetrate the inshore Biscay waters where some U-boats attempted to make swift surface passage before diving to creep through the "Percussion" areas, and this incident therefore added a further threat to submarines on passage. Earlier that month on 10th March the two special Mosquitos accompanied by four other fighter Mosquitos had searched for a damaged U-boat north of Cape Penas in Spain, but found instead a force of German destroyers accompanied by ten Ju-88's apparently sent to escort it to harbour. Flight Lieutenant Cobbledick[3] shot down one Ju-88 and then repeatedly approached the ships to lure the others away so that the gun-Mosquitos

[3] F-Lt L. T. Cobbledick, 120148 RAF. 248 and 618 Sqns RAF. Accountant; of Colac, Vic; b. Melbourne, 24 Jan 1912.

could attack. On several occasions he drew away pairs of Ju-88's and in dog-fights damaged one before the search was abandoned.

Although the Sunderland anti-submarine patrols appeared to produce little tangible result, the constant efforts made by the *Luftwaffe* to clear the Bay area left little doubt in the Australians' minds of the true value of their work. There were many minor skirmishes and evasions, but on 15th February Flight Lieutenant McCulloch[4] of No. 10 found himself suddenly confronted by twelve Ju-88's to starboard and another formation of eight to port. Only quick action on the part of McCulloch and his gunners in beating off the first attack and then heading at full speed for cloud cover, saved the Sunderland from destruction by these overwhelming odds; even in the first approach a stray bullet killed outright the Sunderland tail gunner. Two Sunderlands of No. 461 were hotly beset on 23rd March; one crew survived six attacks by four Ju-88's; Flying Officer Bunce[5] had to face nine enemy fighters, and although one of them was probably shot down, Bunce had to land in the open sea when a cannon shell exploded in a port fuel tank and set his mainplane afire. Seven members of this crew were rescued two days later by the mine-laying destroyer, *Saladin,* after Sunderlands from Nos. 10 and 461 had found and maintained patrol round the dinghy.

[4] F-Lt J. McCulloch, 409429; 10 Sqn. Sales administrator; of Malvern, Vic; b. Jerilderie, NSW, 27 Feb 1913.

[5] F-Lt F. H. Bunce, DFC, 424550; 461 Sqn. Leather chemist; of Vaucluse, NSW; b. Coogee, NSW, 13 Jun 1924.