

days of the assault were using the ports of Le Havre and Boulogne. The boats were well protected by large shelter pens. However, R.A.F. Bomber Command, in two attacks, inflicted great damage on the enemy's fleet of small ships.

397. On the evening of 14th June, a force of 335 Lancasters and 18 Mosquitoes attacked the port area of Le Havre, dropping 1,026 tons of bombs. This tonnage included 22 x 12,000 lb. special bombs. On the next evening, the same tactics were used in an attack on the port of Boulogne when 285 heavy bombers and 12 Mosquitoes dropped 1,463 tons of bombs in a concentrated attack.

398. Very great damage was caused to the ports and the pens in these attacks, and in addition, the heavy bombs, bursting in the water, created huge waves which flung the small craft against the quays and the concrete sides of the pens. Photographs revealed twenty-five of these enemy naval vessels destroyed in Boulogne, and this number was exceeded at Le Havre.

399. Other air operations which were of direct assistance to Allied naval activity were the attacks on coastal defences (reviewed in Part III (b) dealing with preparatory operations), and also the co-ordination of fighter bomber attacks on Radar stations to upset the enemy warning system when Allied light surface forces operated against E and R boats.

Strategical Bombing—"Pointblank"

400. In addition to their priority operations, already described, against targets in the tactical area and against flying bomb installations, the United States and British strategical air forces maintained a considerable effort against targets within Germany after D-Day. As these operations were not directed by me, I mention them very briefly and in order simply, to round off the story of the Allied air effort.

401. The chief limitation on their effort was the weather which frequently made it necessary to cancel projected attacks. The main weight of this offensive from June to September was directed against the enemy's oil supplies and oil production centres. These targets were given priority over aircraft production and assembly plants (although attacks on these latter were not entirely suspended) and other industrial objectives as being, at this time, of more critical importance to the enemy. The G.A.F. had, by D-Day, been very seriously weakened by the efforts already directed against it, although the deep penetration daylight raids of the United States Eighth Air Force still provoked violent enemy air reaction on most occasions. In consequence, there was a steady attrition of the G.A.F. in aerial combat as well as a depletion of Germany's oil resources. Heavy and concentrated attacks on these targets have produced an oil situation which, taken with the loss of Roumanian supplies, must be seriously worrying the German High Command. The influence of this situation is already being, and will be increasingly, felt on the battlefield.

402. Other operations against "Pointblank" targets included attacks on aircraft and motor transport manufacturing centres, on several important communication centres and on German cities.

Brief Summary of Air Effort for the period D-Day to 30th September, 1944

403. At 30th September, the Allied armies stood on and in some places, over the borders of the Reich proper. In 117 days since the assault began, France, Belgium, Luxembourg and a large part of Holland had been liberated. These 117 days had also been unprecedented in the scale of air effort employed. The aircraft of A.E.A.F. alone had flown 316,248 sorties, an average of 2,703 per day. The effort of the strategical air forces based in the United Kingdom raised this total to 552,197 sorties, an average of 4,719 per day.

404. The remarkable achievement of such a high rate of effort is due, in no small measure, both to the detailed administrative plans which facilitated the transfer of forces to Continental airfields without interruption to the current operations, and to the work of the ground staffs who supplied, serviced and armed the aircraft and provided the ancillary services.

405. *Weather.*—The weather throughout the whole period was frequently unfavourable for air operations, and on many occasions interfered greatly with my plans. This was especially so in the first days of the assault. Before D-Day it was known that unsettled weather was approaching and there was a distinct possibility that the unsettled period might be prolonged and severe. I was, however, confident of the ability of the air forces to carry out their allotted tasks, and in particular to deal with the German Air Force, despite the weather handicap. In the event, just after D-Day, the weather was nearly as bad as it possibly could be.

406. In making the Assault, despite the bad weather, there is no doubt that the invasion forces won an increased chance of tactical surprise. There is the evidence of a captured senior German meteorological officer that the Germans were in fact off their guard; he has stated that he advised the German Command that owing to the approach of unsettled conditions, no assault would be attempted.

407. The following figures show the effect of the weather on air operations during the period. The A.E.A.F. total of aircraft sorties on D-Day was 7,672, on D + 1 8,283 and D + 2, when the weather began to deteriorate, 5,073 and on D + 3 the total reached 662 only. On one other day in June the total was less than 1,000 and on two further days it was under 2,000 sorties; however, despite this handicap, the average number of sorties per day for A.E.A.F. aircraft throughout the month of June was almost 4,000. Weather also affected the planning and carrying out of bomber operations between D-Day and September 30th. In fact, the lack of weather good enough to permit of high altitude precision and, above all, visual, bombing was one of the chief reasons why the start of the attacks on the enemy's transportation and communications system was planned so early.

408. *Personnel Casualties.* The following statistics of personnel casualties cover the period from 1st April to 30th September, 1944. These figures reveal a grievous loss of highly trained men. Reference, however, to the statistics in paragraph 183, dealing with the