

277. The other four attacks by heavy bombers were generally based on the same principle of destroying the enemy strongpoints, and cratering given areas to prevent the enemy from attacking the flanks of our forces while they were advancing through the swept but relatively undamaged centre of the assault area.

278. The third of the large scale attacks involving heavy bombers was launched on 25th July, when 1,495 heavy bombers and 388 fighter bombers of the United States Eighth and Ninth Air Forces dropped 4,790 tons of bombs in a bombardment preliminary to an advance by elements of the First United States Army across the Periers—St. Lo highway. Unfortunately some of the bombs in this attack fell short and caused some casualties to our own ground forces in the area.

279. The fourth attack was in support of the Second British Army south of Caumont. The preliminary heavy air bombardment was launched early on 30th July and 693 heavy bombers of R.A.F. Bomber Command and over 500 light and medium bombers of A.E.A.F. dropped 2,227 tons of bombs.

280. The fifth attack assisted the advance of the First Canadian Army along the Caen-Falaise road on the night of 7-8th August and during the succeeding day. 1,450 heavy bombers of the United States Eighth Air Force and of R.A.F. Bomber Command, and fighter bombers of the Second Tactical Air Force dropped 5,210 tons of bombs on enemy installations, strong points and forces in the area of the advance.

281. The sixth attack, also by R.A.F. Bomber Command, took place on the morning of 14th August and assisted the Canadian forces to advance into Falaise. 811 bombers were employed and 3,723 tons of bombs were dropped in the attack. Again, in this operation, some of the bombs fell short of the targets causing casualties to our own ground forces.

282. In each case, the ground forces were able to move into the bombarded positions practically without opposition. That they failed to exploit fully the break-through is known, but there are doubtless many reasons for this failure. In the second attack, the principal cause of delay was the bottleneck across the Caen bridges which delayed the moving of armoured formations sufficiently long to enable the enemy to remount his screen of guns outside the area which had been bombed. In the third attack, the Army Commander agreed that the "carpet" bombing did put his troops through the enemy positions; difficulties which arose in moving the army forces forward as rapidly as was necessary again prevented a complete exploitation. Nevertheless, these heavy attacks did finally succeed in starting off the break-through of the ground forces across the Periers-St. Lo highway, and it was this break-through which eventually determined the battle of Normandy, which liberated France.

283. I have referred to the lessons learned from this series of attacks in close support in Part V of this Despatch. From an air point of view, the attacks definitely proved that saturation bombing by heavy bombers on a narrow front can enable an army to break through, but they also showed the need for the army to exploit, without delay, the favourable situation created. Further, the heartening moral effect

of these large scale air support formations on our own forces and the corresponding shattering of the will to resist among the enemy has been stated by Army Commanders to have been of vital consequence. Air and land action must be closely co-ordinated. The land forces must be ready to step off at least immediately the bombing is over, if not just before, accepting some slight risk of casualties from our bombing, and the artillery programme must be directly related to the bombing plan to ensure economy of effort by both arms.

284. *Pre-arranged Close Support by Medium and Fighter Bombers.*—The operation of medium and fighter bombers on pre-arranged support was often in small formations against targets such as gun positions, tank laagers, chateaux suspected of housing headquarters formations, and defended positions. The effectiveness of the support may be judged from the following extract from a captured document:—

"C.-in-C. West (Von Kluge) in a report to General Warlimont, Hitler's representative, on the position at Avranches says— 'Whether the enemy can be stopped at this point is still questionable. The enemy air superiority is terrific, and smothers almost all of our movements. Every movement of the enemy, however, is prepared and protected by its air forces. Losses in men and equipment are extraordinary. The morale of the troops has suffered very heavily under constant murderous enemy fire.' "

285. *Immediate Support.*—The immediate support of the armies was provided by the fighter bombers of the tactical air forces and in this role the fighter bombers have shown their greatest effectiveness. Never before have they been used in such strength and with such decisive results. I have divided my review of their operations in the following paragraphs into four phases of the land battle, as follows:—

- (i) The period of static fighting.
- (ii) The break-through of the Allied armies.
- (iii) The period of encirclement.
- (iv) The retreat across Northern France and Belgium.

286. In the early period of the operations of offensive fighter and fighter bomber forces, the co-operation between the Commander of the United States IXth Tactical Air Command, General Quesada, and the Air Officer Commanding No. 83 Group, Royal Air Force, Air Vice-Marshal Broadhurst, C.B., D.S.O., D.F.C., A.F.C., was close and effective. Each gave the other assistance as the occasion arose and whenever a good target presented itself, neither hesitated to call on the other to take advantage of it. The development of common methods of control and target indication and reference greatly assisted this British and United States mutual support.

287. *Period of Static Fighting.*—During this phase of the land battle, the tactical air forces concentrated upon the close support of the armies within the tactical boundary. The technique of this form of support was considerably developed. A system of Visual Control Points was perfected by which an experienced fighter controller rode in one of the leading tanks, equipped with the necessary V.H.F. radio-telephony equipment for the control of fighter aircraft. By these means an extra-