Another problem has been the expansion of the ground training establishments. A second recruits training centre for these has been opened in South India, and six new schools of technical training began to function during the period. In addition a third signals school and a second radar school have been opened, and the non-technical training centre at Secunderabad has been expanded.

When the South East Asia Command came into being in November, 1943, and with it the Air Command South East Asia, a separate India Command for the Air (Air H.Q. India) was formed. Into this was merged the Inspectorate General of the I.A.F., a staff that had previously functioned in an advisory capacity in regard to the Indian Air Force.

With the above reorganisation, Air Headquarters, India will be responsible for the control and development of the I A.F. generally, and for all operations on the North West Frontier. Since 1941, these have in fact been purely I.A.F. commitments. The formation of this new Command will undoubtedly contribute much to the development and efficiency of an Integrated Indian Air Force.

42. *Aircraft Maintenance, Repair and Supply*

In the process of building up an organisation for these services, the handicaps imposed by India's limited capacity in certain directions must be understood before the nature of the task can be appreciated.

Elsewhere in this Despatch India's shortcomings as a potential base for large scale military operations has been mentioned*. The picture from the point of view of aircraft maintenance, repair and supply is as follows.

India is not highly industrialised but has immense natural resources which are only on the threshold of development. Unskilled civilian labour is almost unlimited; there are a few semi-skilled, but practically no skilled, industrial technicians. The use of the available civilian manpower is thus limited, and a heavy load is thrown on service personnel. Even these latter, who form the backbone of the repair organisation, are not skilled technicians as the term is understood in England. The small nucleus of highly trained R.A.F. personnel from which the service has expanded during this war were never accustomed to mass production methods, even on the minor scale which has so far been brought into use in this country. The custom in the United Kingdom that major repairs are undertaken by the makers' working party or returned to the factory cannot apply to this Command. Geographical factors have also complicated the building-up of an efficient repair and supply system. The position in the country of the limited industrial facilities has largely dictated the location of base repair units both civilian and R.A.F., and inevitably long distances separate such units from the squadrons they serve. The over-burdened road, rail and water transport services of India impose heavy delays in transit. Thus, while in a country with good lines of communication a major repair may average a month to six weeks to complete, quite frequently this period elapses in India before the damaged aircraft even arrives at its base repair unit. Climatic conditions affect both material and men, the former by deterioration and corrosion, and the latter by exhaustion.

The "man-hour" depreciates in value some 25 per cent during the hot weather and the monsoon period. Moreover the actual work has frequently been held up for lack of spares and tools. The sinking of one or two ships can, and has, seriously upset the even flow of repair. In November there did not exist in the whole Air Command a single complete base repair kit. Shortage of spares has also led to cannibalisation† which, though wasteful, is inevitable.

These difficulties have necessitated an organisation of repair and maintenance units in depth, of which the base units comprise the R.A.F. and I.A.F. maintenance units at Karachi, Ambala, Lahore and Cawnpore, and the civilian maintenance units at Kanchrapara, Trichinopoly, Cawnpore, Barrackpore, Dum Dum, Calcutta and Poona.

The civilian units were organised under the Aeronautical Division of the Department of Supply, which came into being early in 1943, and developed in October into the Directorate General of Aircraft.

During the year, the field maintenance capacity was approximately doubled. The base repair load increased from 42 squadrons and 400 non-operational aircraft to over 60 squadrons and 500 non-operational aircraft. In June 1943, the remarkable totals of 314 airframes and 210 engines were repaired. This June peak figure was the joint result of a swift expansion of repair capacity, and the culmination of a strenuous campaign for spares carried on both with the United Kingdom and U.S.A. It proved impossible to sustain this level of repair output when the spares position once more deteriorated. The figure fell in October to some 130 airframes and 210 engines Nevertheless, the outlook is hopeful, for the three Tata civilian maintenance units at Barrackpore, Dum Dum and Poona, and the enormous R.A.F. depot at Cawnpore, have barely commenced production.

43. *Aircraft erection and storage, and the provision of spares*

Of the 1,750 aircraft erected in India during the year, 1,120 were assembled between June and November, in a steadily increasing flow. Two units were responsible for the work which was carried on with admirable success in spite of many difficulties. Among these latter may be mentioned aircraft arriving in a badly corroded state through lying for months on wharves, etc.; irregular inflow, the result of shipping vagaries (*e.g.*, when the change from the Cape route to the Mediterranean took place two consignments sent at different times arrived together); and climatic handicaps owing to the unavoidable parking of aircraft in the open. In this connection temperatures up to 170° F. were recorded in the cockpits of aircraft being serviced. Under such conditions the handling of metal parts became a matter of some difficulty.

The aircraft storage programme fluctuated considerably. At the beginning of the year reserves were scarce and the flow through the erection units was rapid. During the monsoon, the aircraft storage units began to build up a larger holding. The total output for the (previous) seven months from December 1942 to June 1943 amounted to 650 aircraft. For

* *See* above Part III, paragraph 20 *et seq.*

† Breaking up of aircraft to provide spares for other aircraft.