

AIR COMMERCE...

dates. All 12 Viscounts should be completely retired by 1967-68.

Thus by the end of this decade IAC may be expected to have a fleet of ten Caravelles and six Trident/727 aircraft for trunk routes; 14 One-Eleven/DC-9 aircraft for high-density regional routes; and ten F.27s and four 748 Series 2s for other regional routes. All of IAC's 29 DC-3s will have been retired from passenger service by 1966, when 15 may be transferred to the IAF and the remainder allotted solely—together with DC-4s—to the corporation's night air mail services and to cargo and charter work. Total new capital investment required would be of the order of £25m with spares.

So far as British and American salesmen are concerned, at stake in India over the next few years is a £7m order for new medium jets and a £12m order for new short-haul jets.

There is one big unknown, namely the very real possibility of a

merger between IAC and Air-India, which could be within two years. There is no secret about Air-India's objections to IAC's Caravelle order, on the grounds that IAC's major trunk routes could be handled (as Bombay - Delhi already is on a charter basis) by Air-India's Boeing 707s. But nothing is likely to alter the fact that the demand for Indian domestic air transport is growing at an insatiable rate. Load factors on trunk routes are well into the 90s, the highest in the world. "I have to open up this country," says Mr Mullick, "and I need much more capacity. I can see such potential, with still not much more than a million passengers a year out of India's total population of 450m." He estimates that of the million a year at present carried, 55 per cent is business and Government traffic, 20 per cent foreign tourists, and the balance family traffic.

J. M. R.

BACKACHE IN THE COCKPIT

A BOURNEMOUTH osteopath, Dr John Hope Robertson, claims to have discovered a crippling muscular ailment which brings temporary disablement to airline pilots. According to Dr Robertson, "a number of senior pilots are coming to me secretly for treatment. They are suffering from acute postural fatigue, caused by long flights in badly designed seats. It is fatuous and amazing, but I have found that passengers' seats are often better designed and more comfortable than pilots' seats."

Dr Robertson has examined a number of airliner cockpit seats and has found that "without exception they are all very uncomfortable and poorly designed. Most were of American manufacture." One senior pilot has told him that he was so stiff and cramped after a flight to Trinidad that he could not leave the aircraft for a time.

BOAC's director of personnel and medical services, Mr K. G. Bergin, has replied to Dr Robertson, saying: "It appears that the seats fitted to our older aircraft were not designed in accordance with the proper anatomical requirements. We have rectified this as far as possible but seats still cannot be regarded as entirely satisfactory. I am happy to say, however, that in our new aircraft further attention has been given to the anthropometric and other relevant factors involved."

Dr Robertson says that existing pilots' seats have straight backs without any real support for the lumbar curve, with fore and aft

adjustment but with none up and down. "Big and hefty pilots have to use the same seat as much smaller chaps," he says, "and this is ridiculous. After a period of reaching forward to adjust throttles and other controls pilots are susceptible to a lumbar kink. Even minor defects in seat design can cause acute fatigue and discomfort on long flights."

IMPROVEMENTS AT WOOLSINGTON

A DECCA Type 424 Mk 2 airfield control radar was recently installed at Woolsington, Newcastle upon Tyne's municipal airport, where it replaces the prototype Type 424, installed there in 1954. The Mk 2 incorporates a variable circular polarization system, instead of the linear polarization of the Mk 1, and gives a far better performance in bad weather conditions. With the sea only ten miles away, easterly winds often bring low cloud and poor visibility to Woolsington.

The new radar is only one step in a phased expansion programme which will include new terminal buildings, runway extensions, additional landing aids and improved airfield lighting. Used by over 10,000 commercial and business aircraft last year, Woolsington can expect substantial increases in traffic to result from the Government and regional authorities' plans for the revivification of NE England.

A VC10 has been BOAC route flying from Heathrow since mid-October (see page 7). By December 9, when the aircraft entered a planned maintenance and modification programme, it had completed 364hr on overseas flights. The picture shows work in progress on VC10 G-ARVF in the BOAC maintenance hangar at Heathrow. The route flying is scheduled to resume in a few days' time

