

Our Own

WHILE the regular Pan-American Airways' Atlantic Services continue to be so regular that they are no longer worth recording, it has been unofficially announced that our own services will start on August 5. They will be weekly and will, for the present, carry mail only.

The first modified "C"-class boat will leave Foynes on August 5, while a service in the reverse direction will leave New York for Montreal on August 9. The Harrow tankers should already be at Shannon Airport and Hattie's Camp, Newfoundland. Either *Cabot* or *Caribou* will start the service, since *Connemara* was burnt out at Hythe a few weeks ago—unfortunately enough, just before her engine endurance and consumption tests had been completed.

On July 15 the old *Lieutenant* reached Biscarosse, Bordeaux, after its first non-stop Atlantic flight—made in 28 hr. 27 min. from New York, and remarkable, too, because all but 200 miles of the journey was made on five of the six engines. The pilot was M. Guillaumet, and M. Couhé, managing director of Air France Transatlantique, was among those on board.

More Scandinavian Extensions

THE Finnish company, Aero O/Y, has recently opened a new service from Helsinki to Kemi; the schedule time for the Helsinki-Tammerfors-Vasa-Uleaborg-Kemi run being 4½ hours. By the summer of 1940 it is hoped to have the line extended farther north, via Rovaniemi and Ivalo, to Petsamo, and from that time the name of the service will be Arctic Air Express. Incidentally, a new airport was opened recently at Kemi. On July 1 another daily schedule was added on the Stockholm-Helsinki run, since K.L.M./A.B.A.'s Scandinavian Air Express has been extended beyond Stockholm.

Several Scandinavian newspapers published statements recently to the effect that A.B.A. was negotiating with Aeroflot for the joint operation of a Far East service from Stockholm, via Moscow, to Vladivostok. This route would be about 2,500 miles shorter than the present services through India, and it is believed that Japanese authorities would not object to the scheme if it was carried out by a neutral country. The news has neither been denied nor confirmed.

A Point About Altimeter Correction

EARLY this year a new specification for altimeters used on civil aircraft was issued. For the benefit of those concerned, Kelvin Bottomley and Baird have explained the changes which will result from this alteration, especially in relation to altimeter computers.

In the past the majority of altimeters, apart from those of the sensitive type, have been calibrated in accordance with the Isothermal Convention, which is based on the assumption that the atmospheric temperature is a uniform $+10^{\circ}\text{C}$. at any altitude. Such an assumption is obviously false, and true height can be obtained from such altimeters only by applying a correction, and several computers have been designed to eliminate the work involved.

The new specification calls for altimeters to be calibrated in accordance with a more recent convention agreed upon by the I.C.A.N. This is based upon a very large number of meteorological observations and is, therefore, much closer to atmospheric conditions, especially in the matter of change of temperature with altitude. The I.C.A.N. assumes that the lapse rate, or rate of change of temperature with altitude, is approximately 2°C . per 1,000ft., this figure being very close to the average lapse rate throughout the world; temperature at sea level is assumed to be $+15^{\circ}\text{C}$. Altimeters calibrated according to the I.C.A.N. Convention give readings which are much more accurate under normal conditions, and the corrections necessary in many cases are no more than those due to instrumental errors.

Obviously, therefore, computers designed for use with altimeters calibrated to the Isothermal Convention cannot be used to correct the readings of instruments calibrated to the I.C.A.N. Convention, and vice versa. Computers do not always show any indication of the Convention adopted in their construction, and it will be of interest to pilots to know of a simple method of discovering whether or not a computer is designed for use with I.C.A.N. calibrated altimeters.

A very common form of computer consists of an inner height scale reading against a temperature scale, and an outer pair of scales marked "indicated" and "true" height respectively. In a computer for use with Isothermal instruments, the indicated and true height scales coincide at any given height when that height is set on the inner scale oppo-

site a temperature of $+10^{\circ}\text{C}$. In an I.C.A.N. computer, the indicated and true height scales will coincide at every height if zero height is set against $+15^{\circ}\text{C}$., or if, say, 20,000ft. is set against -25°C . in accordance with the assumed lapse rate of 2°C . per 1,000ft. previously mentioned. Up to 6,000ft. the differences between the readings of altimeters calibrated to the two Conventions do not exceed 30ft. Above 6,000ft. there is an increasing divergence amounting to as much as 1,000ft. at 20,000ft., the Isothermal instrument always indicating a greater height than the I.C.A.N. instrument at the same atmospheric pressure. Where there is no indication on the altimeter to which Convention it has been calibrated, it is, of course, safer therefore to assume that the Isothermal Convention has been adopted, and that a correction should be applied.

Very few sensitive altimeters have been calibrated in accordance with the Isothermal Convention, and in general it is safe to assume with these instruments that an I.C.A.N. computer should be used.

The New Zealand Base

THE administration building and workshops for use by Tasman Empire Airways have now been completed at Mechanic's Bay, Auckland, New Zealand, and it is expected that the trans-Tasman service will be started on or about October 1.

At the same time Pan-American Airways have built their own terminal next door. The base is about a mile from the centre of the city itself. It will be remembered that the P.A.A. experimental flights to New Zealand were interrupted in January last year when the Sikorsky S.42B, *Samoan Clipper*, was lost. Boeing 314s will be used for the new service, and one of them has been named *South Seas Clipper* in anticipation. Both T.E.A. and P.A.A. will use the same stretch of water in Waitemata Harbour.

Full-scale Training

FOLLOWING *Flight's* remarks in the issue of June 29 about the necessity for more thorough training for flying-boat pilots, it is interesting to learn that *Maia*, the lower component of the Composite, is to be used exclusively for training purposes by Imperial Airways. This machine, which is a specially modified version of the "C" class boat, is now at the disposal of Imperial Airways' school at Hythe, and will be used not only for flying training, but also for navigational training, since all the Imperial captains are expected to obtain their First-class Navigators' certificate. Special equipment is being installed in *Maia*, which will still, however, be available as the lower component of the Composite when required, as well as being used as a flying test-bench for new instruments and equipment.

Incidentally, Mr. J. W. S. Brancker has recently been appointed as Imperial Airways' area manager for India and Burma. Mr. Brancker, who is the son of the late Air Vice Marshal Sir Sefton Brancker, has been manager of the European services since 1937, and was previously manager of the Central African area.

Alternative Difficulties

IT appears that borings made during the past month on the site of the proposed alternative airport for Glasgow have been so unsatisfactory that this elaborate "four-in-one" £100,000 scheme is now threatened with an inglorious k.o. from Mother Nature. Persistent tests in the vicinity of the R.A.F. station at Abbotsinch have told the same story. Boring shafts have delved deep into the ground, and always they have brought up the same foundation "sample"—dark brown sections of peat. Engineers report peat to a considerable depth, and difficulty in striking a rock bottom at any point. Tests, however, have not yet been concluded. Additional borings are to be made, and Air Ministry officials are expected to visit Glasgow in connection with the proposed scheme at an early date.

The ground in the vicinity of Abbotsinch is attractive to the inquiring eye. It has a green and gloriously flat appearance, and only the most pessimistic would have believed that beneath this inviting surface lay a squelching bog. It seems, indeed, that the experts took just one look, prepared their plans for a large extension of the existing aerodrome to provide for R.A.F.V.R. training, civil training, and air transport, and proceeded with test bores as a matter of course. Fortunately, the red tape system demands such precautions. There is a distinct difference, of course, between water and bog. While water can be drained, bog—if it goes down to any great depth—defies conditioning.