COMET RESURGENT . .

4 will be certificated for 156,000 lb. But the measurements and assessment of the Comet 3 inspire confidence in the behaviour of the new aircraft, and D.H. hope, is seen on test from its Hatfield base.

The actual Comet 4 programme will, according to present plans, be as follows. First—probably as these words are being read—the aircraft will undergo an extensive series of ground-functioning tests. All the systems, notwithstanding the hundreds of hours of rig-tests which have gone into their making, will be thoroughly checked according to a pre-arranged programme, especially those which could not be made fully representative in the Comet 3. For example, the flying control system, undercarriage, flaps and so on will undergo a large number of reversals, the electrical system will be subjected to a series of full-load checks, and the cabin air system will be run under simulated flight conditions. Next will follow fuel-flow calibrations and engine-runs, after which the first flight will be made.

The Air Registration Board require a minimum of 250 hours before full Comet 4 normal-category certification, of which at least 100 shall be under operational route-proving conditions. D.H. may be able to clear the aircraft in less flying time than 150 hours; but—as the next article relates—the balance up to 250 hours will be accomplished by B.O.A.C. No doubt the first few flights will be concerned with an assessment of the new systems—particularly the flying controls, which are mechanically quite different (mainly in respect of the emergency arrangements and the trimming) from any previous Comet, including the modified Comet 3. There will follow an assessment of performance and handling, which will take the form of checks on Comet 3 results, plus items which could not be covered with that aeroplane because of its lower gross weight. For instance, high Mach number buffet-boundary will be explored, rough-air speeds will be checked, and handling at all c.g.s will be assessed throughout the speed range from the stall (including the ground stall at the higher weights) up to the limiting Mach number and i.a.s. In general, all the more critical handling characteristics found on the Comet 3—such as the reverse-flow Proteus; but its dry-ice performance—will be checked nevertheless.

It should be recorded here that the Comet 4's take-off performance, which because of the aeroplane's plentiful power has always been good, looks like being well up on estimates, judging from the Comet 3 results, as recently recorded in Flight. The basic weight of the first production aircraft has turned out to be considerably less than the brochure. In other words, range (or payload) is likely to be better than estimated.

In general, performance tests on the Comet 4 will amount to about 20 per cent of those done on the Comet 3. That aircraft will still be fully employed, not only for reverse-thrust landing tests, but also for such things as autopilot approach-coupler checks, of which at least 50 now have to be made before certification can be granted. And quite soon, no doubt, the Comet 3 will have its wing span clipped for an assessment to be made of Comet 4B performance.

It is difficult to estimate the amount of time which the A.R.B. will require for their flight evaluation of the Comet 4 before full certification is granted. But the D.H. flight-test department feel confident that it could be less than 10 hours—an encouraging indication of the amount of development which has gone into the new Comet, and the extent to which it will be taken as read.

B.O.A.C. AND THE COMET 4

Many times during 1954, after the Comet 1 had been withdrawn from service, did one hear the question—particularly from B.O.A.C. crews: "When do you think the Comet will come back?" There never seemed to be any doubts that it would come back, so indestructible a symbol had the Comet become.

Though stunned by the way the Comet had suddenly fallen out of their lives, B.O.A.C.—literally everyone in the Corporation—did not lose faith in the aircraft. The Comet had inspired B.O.A.C.'s esprit and emotions as no other aeroplane had previously done. It was popular with crews, it swept in the traffic, it did not lose faith in the aircraft. The Comet had inspired B.O.A.C.'s name in front.

The air-transport industry has grown up a little since those days, and airlines are (to quote Mr. Donald Douglas) more confident that it could be less than 10 hours—an encouraging indication of the amount of development which has gone into the new Comet, and the extent to which it will be taken as read.