



Flying the Caravelle

By VICO ROSASPINA

TO get the Caravelle moving in order to taxi out it is necessary to use the two Rolls-Royce Ayon RA.29s at about 60 per cent power; they are first opened up to 5,000 r.p.m., and the correct taxiing speed can thereafter be maintained with about 4,500 r.p.m. Directional control is by the steerable nosewheel, making use of brakes unnecessary; owing to the fact that the engines lie so close to the fuselage centre-line asymmetric power is not practicable for steering

HERE is "Flight's" first report of the flying characteristics of the Sud Aviation Caravelle, France's increasingly favoured short-range jet airliner—a class of aeroplane which is commanding the close attention of the British industry at the present time. The author, who regularly contributes Italian news to our pages, is also a free-lance test pilot.

purposes. Rudder control becomes effective at 75 to 80 kt. Full take-off power—10,500 lb thrust at 8,160 r.p.m.—can be held on the brakes.

For take-off the best flap setting is 10 deg. Allowable c.g. travel is between 20 per cent and 35 per cent of the mean aerodynamic chord. With the Caravelle at a gross weight of 90,400 lb the nosewheel is brought off at about 7 kt below unsticking speed, which is 120 kt. Longitudinal stability, both during and after take-off, seemed good.

Forward visibility I found to be beyond criticism, but on this prototype the outlook to each side—and especially to starboard—left something to be desired; improvements are promised in the production version.

From "brakes off" the full-weight take-off run lasts approximately 30 sec at an ambient temperature of about 20 deg C, and the undercarriage and flaps can be brought fully up some 20 sec after leaving the runway. Optimum climbing speed—255 kt—is attained in 55 sec. The time taken to reach safety speed of 1.3 V_s hardly calls for consideration, as the Caravelle does not normally unstick until this speed has been passed.

In accordance with American C.A.R.4b requirements, for take-off at an airport altitude of 3,280ft a gross-weight reduction of 5,500 lb is necessary in order to achieve a take-off distance comparable with the full-weight sea-level figure. An increase of 10 deg C in airport temperature implies a weight reduction of about 2,600 lb. To put the matter another way: for operations at maximum weight these airfield conditions require, respectively, a 9 per cent increase in take-off distance in the first case and a 490ft increase in the second.

One increases optimum climbing speed progressively to

Cockpit layout of the Caravelle is designed to permit two-man operation, though a seat for a supernumary is provided. The windscreens and general dimensions are those of the Comet.

