

Typical of a proving flight is the scene (left) in the 72-seat tourist cabin during the flight to New York. (Right) the 18-seat first class cabin; four berths fold into the roof.

## 6,000 MILES IN AN EL AL BRITANNIA . . .

of our chances. We had found a 90 kt tailwind component for about two hours during the night, and were now being steadily puffed along by a wind component of 30 to 40 kt. In an hour or two we should receive London's six-hourly European met. forecast, and the moment of decision—to press on to Tel-Aviv, or to refuel at Rome—would come somewhere over France. For the time being, gallons-gone *versus* distance-to-go looked promising, and at 13.10 we began to ascend our next 2,000ft step to 31,000ft. The captain flicked us up on his S.E.P.2 autopilot, maintaining the A.S.I. to within 5 kt of the new (lower) target speed which, according to El Al's cruising charts, apparently worked out at 205 kt for the particular weight, height and outside temperature conditions prevailing.

The point at which one starts the next step is, I was told, very critical: a couple of knots too soon or too late, as the A.S.I. creeps up with decreasing weight at constant height, and quite a serious effect on economy results. The actual technique of the climb is also very critical: El Al have tried many methods, including just simply allowing the aircraft's momentum to carry it up. But as the nose went up the speed dropped and drag increased, and this was tried only twice in proving flights. Techniques are, of course, still being refined and streamlined, and a large document known as the Green Book, which contains cruising tables, charts and recommended practices for all routes and conditions, constitutes El Al's operational bible. El Al have worked all this out for themselves in the course of paper operations going back to September 1955, and in proving flights since last September when their first aircraft was delivered. I was allowed to look at the Green Book, but not to make notes from it. My impression of this document was that it appeared to be an exceedingly workmanlike effort to get the most out of the Britannia, its two fundamental precepts being to extract the most value from every pound of fuel, and to make things as simple as possible for the crew. "Seventeen years as a practising navigator," remarked Jed Williams, "have tended to make me avoid fancy techniques, however good they may be in theory." They had no "prima donnas or special wizards" in El Al.

Full realization of the detail of El Al's performance work



For the record flight to Tel-Aviv 11 rows of tourist seats were removed, as shown here, because full pressure-refuelled tankage could not be obtained at New York.

dawned on me when I noticed in the Green Book detailed Britannia charts for the 200-mile London-Paris sector. At least three different operational techniques were considered, the conclusion being that block time and fuel consumed were much of a muchness, the approach techniques being likely to waste more money than this or that kind of cruise.

I asked about the extent of Bristol's support, and whether it was not unusual for an airline—particularly one as small as El Al—to be expected to do so much basic performance work. It was unusual, I gathered, but Bristol had provided them with a Tel-Aviv-based performance engineer, and had very quickly learnt that a theoretical cruising grid, say, was not always sufficient in airline practice. Of the rest of Bristol's technical support, I was later told by Mr. Palgi that it has been "of the highest possible order."

I asked why El Al's scheduled London-New York times were faster than B.O.A.C.'s (10 hr 50 min westbound, compared with 12 hr, and 8 hr 30 min eastbound, compared with 9 hr 50 min). I never really got a conclusive answer to "that loaded question," as a Bristol representative described it, so I expect that the truth lies somewhere between a little optimism on one side and a little cautiousness on the other. I know that both airlines have been out to break the Atlantic "four-minute-mile"—New York-London in eight hours—and El Al actually got within three minutes of it on a proving flight on December 7. But a good deal of nonsense has been spoken and written about the transatlantic Britannia rivalry between El Al and B.O.A.C. It has been said that the Israeli airline was all-out to beat the British Corporation in the introduction of transatlantic Britannia services. This is not so, though it may have appeared to be so. A storm in a teacup was caused by a \$3,400 full-page El Al advertisement in the *Herald Tribune* of December 6. (The president of Aeronaves de Mexico, whose Britannia 302s were at that time due into New York on December 16, was so impressed that he asked to reproduce it at Aeronaves' expense in Mexico City newspapers.) The advertisement showed a photograph of the sea, with the heading: "Starting December 23 the Atlantic Will Be 20 Per Cent Smaller," and the caption: "Watch for the inauguration of the first jet-prop service across the Atlantic, introducing the Bristol Britannia."

At this time B.O.A.C. had stated that their Britannia services

El Al carry one stewardess and three stewards on Britannia services. Until now El Al have not offered first-class service, but they are learning very quickly about the scale of the competition in this kind of business, and are offering a high standard of service.