A lively take-off from Schiphol Airport, Amsterdam, by the Nene-powered S.14 Mach Trainer. This aircraft first flew on October 25th last year.

FOKKER S.14 IN THE AIR

NUMBER 50 OF THE SERIES

BY THE EDITOR

THE fiftieth in this series of personal impressions of aircraft handling follows an exciting and revealing flight in a jet trainer. During sixty concentrated minutes spent at the controls I learned a lot and refreshed memories of even more. I also recaptured for a while that jet *joie de vivre* which comes to the occasional amateur who is fortunate enough to sample confidently and in comfort the freedom of the high skies.

So different are the dimensions of flight in a modern jet machine that for me the first light aircraft to figure in this series differs from the fiftieth almost as if they belonged to the first and fiftieth year of flying itself. The gap between flying a light aircraft in good weather and handling jet fighters or bombers in all weathers has become a great chasm. For this reason alone there is a requirement for a training aircraft, both docile and simple to handle yet fully equipped and lively in performance, which can bridge that gap for pilots in training. This is precisely what the Fokker S.14 Mach Trainer (to give its formal title) sets out to do —and succeeds admirably in doing.

On the particular morning of the flight I watched the gloomy weather at Schiphol get steadily worse as the aircraft was readied for take-off. But now, recalling my unfulfilled wish for clear skies, in retrospect at least, I give thanks for the very bad (but not *too* bad) conditions which resulted in a more complete and instructive experience. Jet training cannot be undertaken only in good weather; nor should it be.

This machine has some formidable competitors with both side-by-side and tandem seating but it has certain advantages over all others. It was, of course, designed as a trainer from the outset.

I was quite familiar with the S.14 Derwent but had not seen the aircraft since it became the S.14 Nene. Examination in the hangar revealed some important differences, though none was very obvious externally. A slight concave curvature on the bottom line of the rear fuselage may be noted.

To accommodate the 4in larger jet pipe of the Nene a completely new rear fuselage has been fitted from a point aft of the wing trailing-edge. Improved jet-pipe cooling airflow has also been provided. The fixed and control surfaces remain unchanged, but new lattice-type dive-brakes have been fitted in place of the earlier solid panels; they consist of three surfaces situated on the two sides and underneath the rear fuselage.

The installation of the Nene was not a difficult task, space being available and existing air intake and trunks being already large enough. Mountings were accordingly adapted and a modified accessory gearbox installed.

Other changes to be mentioned are the new instrument panel, which complies with NATO standards, and the installation of new air compressors together with greater storage capacity for the pneumatic power system. Two pumps are now fitted, giving pressure up to 3,000 lb/sq in.

Additional fuel booster pump capacity is provided for the Nene, with a 3.75-gallon recuperator. The new undercarriage, by Dowty, is not unlike that on the Hunter. Apart from looking after the increased aircraft weight the equipment itself shows a saving of about 70 lb over that first fitted. The brakes are more powerful than those on the Derwent prototype.

The S.14 Nene first flew just over two months ago, on October 25th, 1953, and will now have done about 35 hours. Principal dimensions are the same as for the Derwent version, but the normal all-up weight is 12,230 lb compared with 11,800 lb. With increased tankage, resulting from the installation of a 37.5-gallon tank in each outer wing, the max. design a.u.w. is 12,980 lb.

Royal experience of a jet trainer: Prince Bernhard of the Netherlands enters the first pilot's seat while Captain Sonderman, who is both his personal pilot and the chief test pilot of the Fokker company, stands by.

The accommodation of the fuel—all in the wings—is as follows:—

Two inner tanks (2 × 90 gal)	180	gallons
Two front outer tanks (2 × 60 gal)	120	,,
Two rear outer tanks (2 × 50 gal)	100	,,
	400	,,
Usable volume	375	,,
Two auxiliary outer wing tanks (2 × 37.5) ...	75	,,
Total capacity	450	gallons

Before the flight is described, a reminder may be given that the first production S.14 Nene is due in the autumn. A batch of twenty is being built for the Royal Netherlands Air Force, and five for Brazil, where a large number is then to be built.

Provision is made for an armament pack carrying two 20 mm guns to be fitted (or quickly detached) beneath the nose. A new moulded canopy, reinforced with Fibreglass, has also been designed.

Fokker pilots who fly the S.14 Nene are Mr. G. Sonderman, chief test pilot, who has done most of the work on the aircraft and with whom I flew; his assistant, Mr. A. P. Moll, ex-Dutch Air Force, a Meteor instructor, and still in the Auxiliary Air