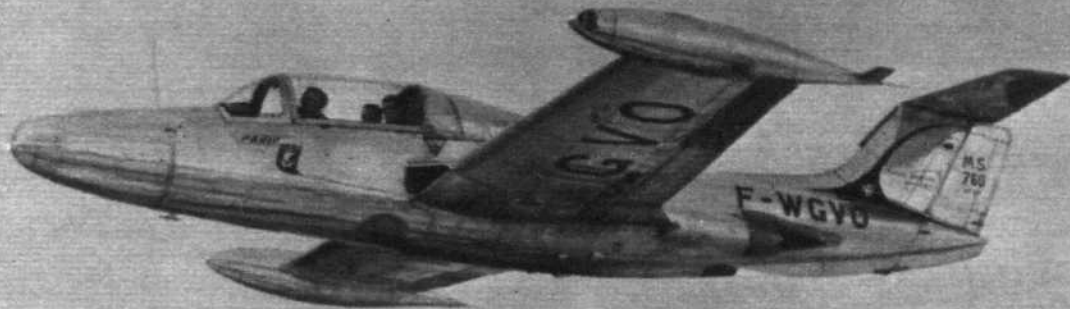


The first—and so far the only — example of the attractive Morane-Saulnier M.S.760 Paris in flight. The additional fin area under the tail was originally added to the 760's predecessor, the Fleuret, in order to make it capable of spinning for training purposes.



ACTUALITÉS FRANÇAISES

Part 2: Around the Industry

By C. M. LAMBERT

DURING the first part of my visit to France, as related last week, I travelled down to the South of France and back to Paris. The week-end was spent mainly at Toussus-le-Noble and Buc, just outside Paris, watching a series of light and ultra-light aircraft being put through their paces, and an account of these proceedings will form the third instalment of this series. It was after the week-end that I was able to visit, in and near Paris, the series of companies described here, namely Morane-Saulnier, S.I.P.A., Marcel Dassault and S.N.C.A.N.

Morane-Saulnier. On the Monday I had lunch with M. Vichou, the head of the design department of Morane-Saulnier, at Puteaux on the outskirts of Paris. He told me something of the company's work and during a short tour of the experimental factory I was able to take a fairly close look at the M.S.760 Paris, a light communications four-seater powered by two Turboméca Marboré turbojets. This at the time was completely dismantled and undergoing the usual inspection and minor modification which take up a considerable part of a new prototype's life.

The Paris was directly developed from the M.S. 755 Fleuret side-by-side two-seat trainer. It may be remembered that the Fleuret went to India last year for service trials with the Indian Air Force. Contrary to expectations, no order resulted; nor did N.A.T.O. come to the rescue, for the Fouga Magister was standardized as the basic and intermediate trainer. The only Fleuret so far built has been acquired by the French Air Force and is based at Marignane. Translation from Fleuret to Paris was achieved mainly by removing the former's armament, redesigning the cabin floor to eliminate the downward ejection hatch, and moving the rear cabin bulkhead slightly aft at the expense of a little fuel-tank capacity. This lost capacity was made up by re-shaping other portions of the tank.

By all reports the Paris has lost none of the Fleuret's delightful flying characteristics, nor have its possibilities as a trainer been in any way prejudiced. An order for a hundred, to replace the Noralpha and the Norécrin, is expected from the French Government. If this is secured, the first production Paris will be due for delivery next January; a pre-series is under way.

Perhaps the most interesting news about the Paris, however, is the fact that Beechcraft have shown a very real interest in the type, presumably with a view to producing it under licence in America. M. Savarit, Morane director-general, has spent two months in America in connection with the project and I understand that Beechcraft have requested that the Paris should follow, there to undertake 500 hours' flying. The American company has also asked for the latest Marborés, of 450 kg (990 lb) thrust each, to be installed.

All-up weight of the Paris with four passengers and 30 kg (66 lb) of baggage, is 3,397 kg (7,470 lb) and its maximum speed 650 km/hr (400 m.p.h.). It climbs to 7,000m (22,900ft) in 18 min and at this height and at maximum continuous power has an endurance of 2 hr 45 min and a range of 930 miles. It carries 1,000 litres (220 gal) of kerosine in the single main fuselage tank and 250 litres (55 gal) in each tip-tank. These latter are not jettisonable, but electrically operated valves can be opened to dump fuel very rapidly. Flap, dive-brake and undercarriage actuation is by flexible shafts and Lear electric motors. The nose opens up, Vampire Trainer fashion, to expose radio, alternators, batteries and electric jack motors. A completely removable tail gives direct access to the engines, and the wings can be detached without the necessity for removing the undercarriage. The tail-

plane has electrically variable incidence, and the large main-canopy blister is a one-piece moulding 8 mm (0.31in) thick. The cabin is fully pressurized and air-conditioned.

M. Vichou said that the twin-Marboré formula had been found the best for the particular purpose; it would have required a turboprop of 2,000 h.p. to produce a comparable performance, and this would in any case have brought with it the added dimensional and mechanical complications of a fairly large airscrew. Had two small turboprops been used, the single-engine case would have been far less comfortable than with the Paris's Marborés, which are "toed out" and close to the centre-line.

In the experimental shop at Puteaux there was also one of the three M.S. 700 series twin-engined six-seat liaison aircraft, similar in general layout to the Twin Bonanza and designed with colonial operation in view. The aircraft was being overhauled and prepared for use as a company hack. One can expect other projects from Morane-Saulnier, but these, for the time being, must remain under the security veil.

A Visit to S.I.P.A. During the afternoon, I went to see the S.I.P.A. factory on the outskirts of Paris. Though the chief designer, M. Max Gardan, is one of the youngest designers in France—he is under 30—he has been responsible for a number of outstanding aircraft, notably the Sipa S. 200 and S. 300 and the Minicab and Supercab. He is tremendously energetic, determined and full of ideas. At the moment the factory is engaged in bringing up to Sipa S. 121 standard about 30 of the early Sipa trainers originally developed from the German Arado Ar 396. The French Air Force is reported to be most enthusiastic about this aircraft and to have requested that these early machines be brought up to the latest standard. This is being done on a production-line basis.

In addition, of the seven S. 200 Minijets ordered, two prototypes and three of the pre-series are complete and the last two of the pre-series await only engines and equipment. Of the latest development, the tandem two-seater S. 300, five have been ordered by the government and one has so far flown. This first aircraft is to go to the Centre d'Essais en Vol for tests.

Since he must have considered light fighters, I asked M. Gardan what his ideas were on the subject. He was perfectly confident that he could have produced a light fighter carrying two missiles and capable of either horizontal or vertical take-off with an all-up weight well below 11,000 lb. The main problem, he said, lay in adapting to the formula the latest techniques, principally concerned with equipment. In any case, he thought, design had not progressed far beyond the stage of the Messerschmitt 262.

But I heard that M. Gardan is at the moment concentrating on quite another type of project, the results of which may possibly be on view at the time of the Salon in June. I could not help feeling that if official assistance were forthcoming one could expect some most interesting designs from this source.

From the S.I.P.A. factory, I went up to Villacoublay and saw the first prototype S. 300. I was provided with a parachute and sat in the front cockpit and saw what an excellent job has been made of it. There is no superfluous room, yet nothing gets in the way of a comfortable sitting position and all controls and switches are laid out on two narrow consoles down the sides of the cockpit. Everything can be reached with the minimum of movement and the visibility, particularly over the nose, is excellent. Though the S. 300's engine is the same as that of the Minijet, the take-off is rather shorter.

For various reasons it was not possible for me to fly the S. 300 but I gladly accepted a second flight in the S. 200. I made a trip