# WASSMER SUPER IV in the Air

BY MARK LAMBERT

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THERE is still a distinct and immediately noticeable difference between executive aircraft made in Europe and those produced in the USA. Though the latter are almost always prettier, more luxurious and extremely efficient, they often lack classical handling characteristics of the type we are accustomed to in Europe; they look less strong; and they are usually more expensive—this last fact being partly the artificial result of import duty and delivery costs. I have always wanted to see a thorough-going European attempt to reconcile the two types of qualities without losing too much of either; and I think I have found a good start in the Wassmer Super IV—sometimes called the Sancy—which I recently flew at the makers' airfield at Issoire, up in the hills of central France.

I flew there, in a borrowed Comanche 250, from Toulouse and points west and north, having to cross some snow-topped mountains on the way and dropping down to the little town and its grass field at an elevation of 1,200ft. Glutted with the luxury of the Comanche cabin, autopilot and VOR, I steeled myself for the usual European treatment and was delighted to find myself disabused. The comparison with the Comanche is deliberate here, because the Super IV is in many respects the equivalent of a Comanche 180, though not in any way copied from it. Both types have a laminar-flow wing and a slab tailplane.

Wassmer are one of the main light-aircraft manufacturers in France. They have already made 150 Jodel D.112s (Continental 65 h.p.), 195 Jodel D.120s (Continental 90 h.p.) and 60 Javelot single-seat gliders, and are preparing to produce the high-performance Bijave two-seat glider. So far, 16 Super IVs have been completed and sold in something over a year. The seventeenth was in final assembly, with another taking shape, when I visited the factory. The Super IV's engine is the 180 h.p. Lycoming O-360.

Wassmer have their own wood- and metal-working departments capable of turning out steel-tube airframes, and castings and sheet fabricated structures. They have fabric and plywood skinning sections and an extensive glass-plastics shop. The Super IV consequently has a steel-tube fuselage with fabric and wood covering and, among some 40 glass-plastics components, engine cowlings, fairings and baggage compartment of this latter material. The all-wood, laminar-flow wing, entirely plywood-covered, has an aerofoil section of NASA 63.618 with a t/c ratio of no less than 18 per cent over the whole span. The wooden spar—at about 35 per cent chord, and therefore very deep—forms a large, stout torsion box with the leading edge. Far out in each wing a 25 Imp gal tank fits in a bay covered by glass plastics and Klégécell sandwich panels. The undercarriage is a hefty fabricated metal structure with rubber-in compression springing, the three legs being manually retracted by a lever between the pilots' seats. There is plenty of room ahead of the panel for installation of any of the radios now available. Full blind-flying instruments, radio, navigation and landing lights, heated pitot head and constant-speed propeller are optional extras. Basic price, for export from Issoire, is £5,090.

There is a surprising amount of space in the Super IV. The canopy, partly made of glass-fibre and Klégécell sandwich, slides right back to uncover all four seats; there is plenty of leg-room front and back and a great big parcels tray behind. Beneath this is the plastics luggage compartment, with its own door to port. Dunlopillo on rubber-strap upholstery, and cabin trim in a wide range of tough plastics materials, give a pleasant atmosphere. Access is by permanent footstep onto a rather narrow walkway and over the side wall. To get into the front seats one can step on the centre console, between the seats, and lower oneself forward into the seat with the aid of a stout loop of strap. Rudder pedals, but not the seats, are adjustable. Ventilators and heaters are provided; and the canopy, when locked forward by over-centre catch, appeared draught-proof.

In the demonstrator F-BIXX, a full blind-flying panel occupied the left side and the same space was available to the right for radios. In fact, two Radiostal VHF radios, a Lear ADF and another receiver were installed there with room to spare. Practically all levers and switches were on the central panel and console, with the usual engine gauges, fuel pressure and two contents guages, brake handle, vernier throttle and pitch controls, r.p.m. and intake pressure in Pièz. Either tank is selected by a small rotary cock. Flaps could be extended to 15° or 32° by a short lever between the seats. Next to this was the trim control operated by a lever, usually a difficult device to set accurately, but in this case adequate.

When the wheels were down, the retraction lever stood upright next the pilot's elbow. To retract, I had to press the button on the end of the lever to release the locks and then heave forward and press right down to lock the wheels up. The effort required was fairly high, but not as great as I had expected. When extending the gear, the legs clanged down under their own weight and some resistance was required if the operation was to be effected gently. If the wheels fall with full force they bounce out of the down-locks before these can engage and a small extra shove down is needed to secure them. The operation is obviously not as smooth as electric or hydraulic actuation, but the small effort required is worth the simplicity of a completely mechanical—and therefore probably trouble-free—system. There was little knack to it and, as I said, the physical effort was not great. Incidentally, F-BIXX made its début at the Paris Show two years ago in what I would charitably call a striking mauve colour scheme. Now it is finished in a very attractive yellow and black which suits it much better.

I installed myself in the aircraft with M. Dumont, the director of

"Flight" photograph

*Spaciousness is the keynote of the Wassmer Super IV cockpit, seen here with four radios on the right and one on the left, as well as blind flying*

*The 180 h.p. Wassmer Super IV seen alongside a Piper Comanche 250 on the Wassmer airfield*
"Flight" photograph

## WASSMER SUPER IV in the Air . . .

Wassmer, and two passengers. We pulled the canopy shut and opened the very large fresh-air vent in the roof. Visibility through the horizontal 270°, upwards through the sides and down over and past the nose was exceptionally good. The rudder pedals came back to within comfortable reach, but the control wheel, emerging on a piston from the panel, was set rather low and bumped my knees when I applied full aileron. This was more inconvenient for the passenger beside me, because I could spread my knees before applying full aileron deflection. On the other hand, the low position meant that, during long periods of cruising, I could have rested my arms on my knees while flying. The low mounting also avoids obstructing the important instrument space on the panel. A very small inconvenience, felt only during approaches in rough weather, is fair exchange for comfortable cruising and more panel space.

The Lycoming, of course, started readily and I taxied off across rather rough turf. I could see well, the suspension was excellent and the nosewheel steering allowed me to turn easily almost about one mainwheel, the wing-tip almost moving backwards over the ground. The brakes acted together for slowing down, Comanche-fashion, and were effective.

The normal checks were adequate for take-off and I opened up with flaps retracted. We gathered speed reasonably quickly and M. Dumont signalled me to pull off at about 90km/hr (56 m.p.h.). In the climb at 150km/hr (93 m.p.h.) the aircraft felt very pleasant, with light control forces, smooth feel and good stability. We climbed at 4.8m/sec (940ft/min) with tanks half full. The ailerons were particularly smooth and light and the aircraft felt really manœuvrable.

I then levelled off and set 2,400 r.p.m. and 78 Pz, about 75 per cent power, at 3,500ft. As the speed built steadily up the nose had to be pushed right down and the trim change was progressive. We finally settled at 240km/hr (149 m.p.h.) and steamed along with superb visibility for map-reading. The big roof ventilator produced lots of cool air. Lateral control was still very smooth and lateral stability neutral. A sharp pull-up produced two phugoids before trimmed speed was regained; and the rudder was light and directional stability positive. I noticed that the Super IV did not snake in rough air like many other types. The only complaint was that the noise level was a little high, a rather hollow noise from the engine which was intrusive, but would prove fatiguing only after some hours. We could talk to each other reasonably well. Turns with aileron alone produced virtually no skid and a high rate of roll was available. The general feel was very pleasant.

Closing the throttle smartly caused only a slow nose-drop, and stickback pressure increased steadily as the speed fell off. The ailerons remained light and by 120km/hr (74 m.p.h.) the nose was well up and we were beginning to sink. By 100km/hr we were sinking fast and the stall followed with a little warning buffet and a roll over onto the right wing. The Super IV dived away, but quickly regained flying speed and I pulled out without using power or forward stick. Flap and undercarriage speed was 160km/hr (100 m.p.h.). The gear dropped down with a thump, causing little trim change. The flaps, too, left little trim change and, with power off, we went downhill at 130km/hr (81 m.p.h.) and a very useful 1,000ft/min. Control was still excellent, with very responsive ailerons (if the knees were spread to avoid the wheel) and there was plenty of power left in the tailplane. This was real control as I like it, not a petering-out of elevator near the stall. I pulled back until we stalled at about 90km/hr (56 m.p.h.) and again we rolled over to the right and dived. Recovery was once more completely straightforward.

For the landing, I set up the approach at 130km/hr, which I judged adequate, and breezed in with no trouble at all. There was ample elevator to round-out into a very tail-down attitude and we touched down softly on that rubber suspension, holding up the nosewheel for a long time afterwards.

The Wassmer Super IV proved a thoroughly pleasant aeroplane to handle, with an excellent undercarriage and quite exceptional visibility at cruising angles of attack. Add to this some six hours' endurance and the ability to carry even a stretcher in the cabin and any amount of radio, and you have a valuable touring aircraft. The structure looks tough and straightforward, the price is very reasonable and the styling and comfort are attractive. I only hope that the aircraft achieves its deserved market and that Wassmer press on with production.

### WASSMER SUPER IV SANCY
**(One Lycoming O-360 giving 180 h.p.)**

Span, 32ft 9in; length, 24ft 11in; wing area, 172 sq ft; empty weight, 1,430lb; gross weight, 2,650lb; wing loading, 15lb/sq ft; fuel capacity, 50 Imp gal.

**Performance:** Maximum speed, 170 m.p.h.; cruising speed at 75 per cent power at 7,500ft, 165 m.p.h.; sea-level cruising speed at 75 per cent power, 152 m.p.h.; stalling speed, 58 m.p.h.; sea-level rate of climb, 900ft/min; take-off run, 655ft; landing run, 590ft; service ceiling, 16,400ft; endurance at 75 per cent power, 5hr, 810 miles; endurance at economic power, 6hr 30min, 960 miles.