

ing effect of the tip tanks are a help in preserving the airflow and making possible this new aerobatic.

the new types

THE REAL event of the year was, of course, the revelation of the new types; the Vickers Armstrongs Valiant, Hawker P.1067, and Supermarine 508. This was something of a disappointment, however, for in the first place we had not been allowed near enough to the special park to see more than is perfectly obvious from photographs and secondly, the pilots had obviously been told not to show the machines off to the full. Also, the Swift had a belly landing and the externally similar Nene-engined Type 535 deputized.

The Valiant is remarkable for having very large double-slotted flaps, which certainly seem to give it a good take-off and landing, though one must always remember that bombers have a great weight advantage over fighters at such demonstrations. Its grace in the air was remarkable and the change in wing sweep from the broad root was reminiscent of the Comet. Like so many of the very efficient, well-streamlined types, the Valiant was very quiet in flight. I was particularly impressed by the Valiant's slow approach to land and the S-turns which her pilot made at low speed.

The Supermarine 508 carrier fighter, which arrived late on Tuesday evening, is a most curious aeroplane. Basically a "blown up" Attacker, it has two Avons and *straight wings*. One would have expected sweepback as the logical accomplishment of the enormous power of the two big axials. The reasoning behind the layout is probably that the machine is supersonic anyway and, therefore, by having a straight wing it is possible to meet the troubles earlier—for they exist only at the critical speed—and, in any case, it is extremely difficult to make a folding swept wing. Leading edge flaps in conjunction with plain flaps give a high-lift section to the very thin profile wing for landing—the first time this thirty-year old RAE invention has been used in Britain! The butterfly tail, with its "vaw-pitch" controls, is an effort to reduce tail unit drag and, at the same time, to clear the twin jets. It is a system that has not before been used on a fast or large aeroplane, although it has been tried successfully on several civil types, notably the Beech Bonanza and the aerobatic Fouga light jet aircraft. No

attempt was made to demonstrate the climb of this aeroplane, which ought to be exceptional.

Fastest Fighter: Most spectacular of all was the Hawker P.1067—claimed as the fastest fighter in the world. More tubular and less graceful than the earlier jets designed by Sidney Camm, this one has all the performance one could wish. The half dozen SBAC Displays since the War have gradually inured us to low, high-speed beat-ups, but this one by Neville Duke was easily the fastest yet — *and looked it*. Flying straight along the runway at about fifty feet, he was past and out of sight almost before one had time to appreciate the roar of his passage. The

CF-100 Delivered

The RCAF took delivery of its first CF-100 on October 17 and the occasion was marked by an official presentation ceremony at the Malton, Ont., plant of the designers and builders, Avro Canada. This aircraft, fourth of the type to be completed, is powered by Avro Canada Orenda engines. Of the other three aircraft, one crashed; the original prototype is being kept by Avro Canada to carry out gun firing trials, and the first Orenda powered version is also being kept by the company for use as a flying test bed. The aircraft on which the Air Force took delivery is being used at the RCAF Experimental Proving Establishment at Rockcliffe.

effect on the eardrums was more like that of a sudden change of pressure than of a loud sound—which may well have been the passing of the shock wave. Unlike the other types, this machine was put through its paces, so that one could appreciate its deep roar (which suggested re-heat) and a very rapid rate of roll that could only have been obtained from power-boosted ailerons. Landing and take-off runs seemed average for a jet fighter, climb above average. This new production fighter, like the Valiant, looks like giving the RAF another winner.

It was a great pity that Swift could not appear for comparison, for the lower thrust of the Nene did not let the 535 compete with the P.1067. Since the machines are externally similar, I will comment on one feature of the 535 which is curious and that is a marked lateral instability on the ground. Just before unsticking and just after touch-down the machine oscillates from one main wheel to the other.

The Flying Triangles: Last in each

day's program came the most unique item of all, the flying of the deltas: the Avro 707B and the Boulton Paul P.111 ... the tiny Fairey FD-1 was not present. This layout, which may well be common in the future because of its many structural and aerodynamic advantages, was a new one to be seen in flight. Ignoring minor differences, the 707B and the P.111 are different in conception, the former has a small raked fin and separate ailerons and elevators, while the latter has a large fin and elevons. These basic differences were reflected in the handling — allowing also, of course, for pilot technique. The Avro had a very rapid roll, but seemed to lack the fin area to keep quite straight, while the Boulton Paul rolled more slowly but kept straighter. Neither did much manoeuvring in the looping plane and I suspect that, like all the tailless types, this is the weakest feature.

But it was in slow flying that we looked for the most spectacular advance, and we were not disappointed. The 707B came by, sitting up at about twenty degrees and doing less than 100 mph in level flight. When landing, Roland Falk brought her in at this angle and almost stopped in about half the distance of the other jets, then opened up to go round and land again with his tail parachute. With this the technique is to come in at low incidence and release the chute as the wheels touch, which results in a landing run little more than that of the Universal Freighter, say three or four hundred yards. The Boulton Paul used its tail parachute, but did not stop quite as short. One other point was noticeable about the Avro and that was that it seem directionally slightly unstable at take-off, since it veered right or left once it was in the air.

To Sum Up: The newest fighters and bombers shown are already scheduled for production, the delta wing experiments and the compounded engine point to the designs of the future, and Britain's lead in jet development has been maintained. In air transport the position is more confused; the Ambassador is only just going into service after many delays, the Comet is also nearly ready, the Viscount further off. The Bristol 170 and the de Havilland Dove still hold the field in their classes and are joined by the de Havilland Heron and the Percival Prince—perhaps also by the Universal Freighter.