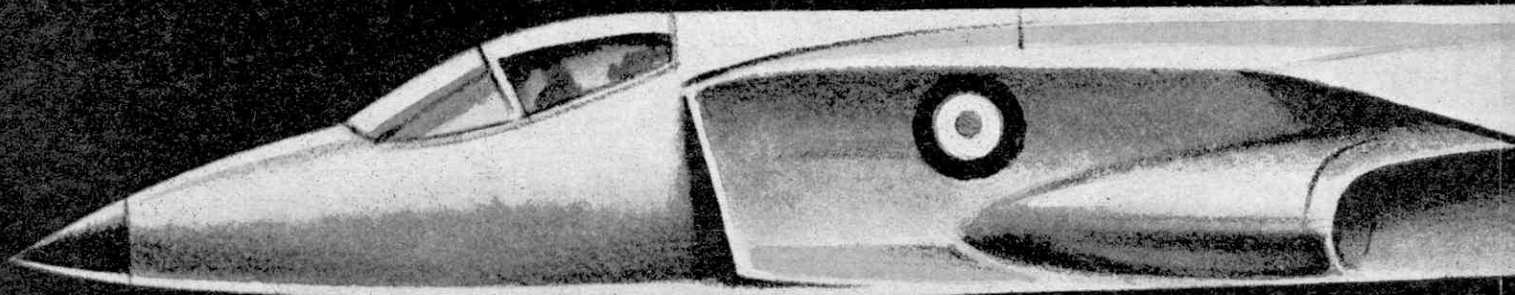


WORLD BEATERS



ON pages 18 and 19 of this issue of *Meccano Magazine* are shown models of some of the best-known products of the Hawker company, developed during the four decades when its design team was headed by Sir Sydney Camm. By modifying the basic kits, a keen model-maker could form a collection of well over a hundred different types and variants in the insignia of many air forces. But there are some Hawker designs that will never be included in any series of plastic kits, although they were among the most interesting and advanced of all. This is because, for one reason or another, the full-size aircraft never flew.

In this article, I propose to tell you about a few of these potential 'world-beaters that weren't'. Some have been described briefly before; others will be revealed for the first time, and Ken McDonough has been allowed to base his exciting impressions of these on official company drawings.

Most people associate Hawkers with single-engined military aircraft, but Sir Sydney Camm's concepts

ranged far wider than this. The first aeroplane he designed for the company in 1924 was the tiny Cygnet ultra-light biplane which won the first prize of £3,000 in the Lympne Light Plane Competition of 1926. 'Ultra-light' was no exaggeration: the Cygnet carried two people on only 34 h.p. and had an empty weight of 373 lb.—less than the weight of one of the Sparrow air-to-air missiles carried by a modern fighter like the F-4 Phantom II.

In the year of the Cygnet's triumph, Camm went to the other extreme and designed a big three-engined military transport for services with the R.A.F. in the Middle East. He followed it with a twin-engined heavy bomber to Specification B.19/27, but the Handley Page Heyford was chosen instead. Through the years, the Hawker design team continued trying to break into the multi-engined bomber market. Their P.13/36 monoplane bomber, drawn in 1936, was rejected in favour of the Avro Manchester. They came within striking distance of success with the beautiful Mosquito-like P.1005, designed to Specification B.11/41 and intended to be powered by two smoothly-cowled Sabres. Visitors to the Experimental Shop at Kingston in the early 40's cast admiring glances at the full-scale mock-up of this design, but it remained only an aeroplane of wood and paper.

The P.1005 reflected Camm's

policy of having 'only gentle curves everywhere'. When the first of Sir Frank Whittle's Power Jets turbojet engines became available, a scheme was sketched out to fit two of them in the bomber, instead of Sabres. In the middle of a world war, the government decided that Hawkers were better employed on building piston-engined fighters by the thousand than in dabbling with still-unproven jets.

For Camm, however, the jet-engine—by eliminating the need for a cumbersome propeller—offered new design possibilities, and his succession of jet-fighters has never been excelled in terms of grace, beauty and flying qualities. The Sea Hawk, Hunter and P.1127 are famous, but how many people could identify the P.1092? Yet, if built, this might have outdone even the Hunter.

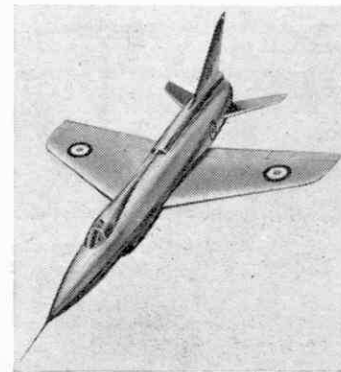
Today, delta-wing designs are no longer unusual; but when the P.1092 was conceived in 1951 only four types of powered delta had flown, all of them pure research aircraft. It took a great deal of courage, therefore, to design a delta that would not only be suitable for first-line service as an all-weather fighter, but would also be the first British combat aircraft capable of travelling faster-than-sound in level flight.

The wing leading-edges of the P.1092 were intended to be swept back at 65 degrees, an angle which is only now being adopted by other

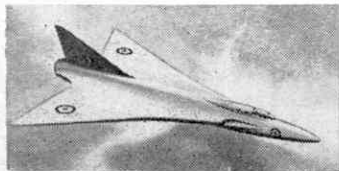
designers. Span was 35 ft. and length 55 ft. The power plant was to be a Rolls-Royce Avon turbojet. With the prototype Hunter about to fly, those in authority probably considered that Hawkers had their hands full, and the P.1092 was soon forgotten.

Not so the P.1121, which came so near to flying that its cancellation is still regarded as one of the major mistakes in British post-war aviation. It began life in 1954 as the P.1103, a large two-seat missile-armed interceptor designed to meet Operational Requirement 329. Work on a prototype was started, but in 1956 the Air Ministry changed its mind and decided that what the R.A.F. really needed was a single-

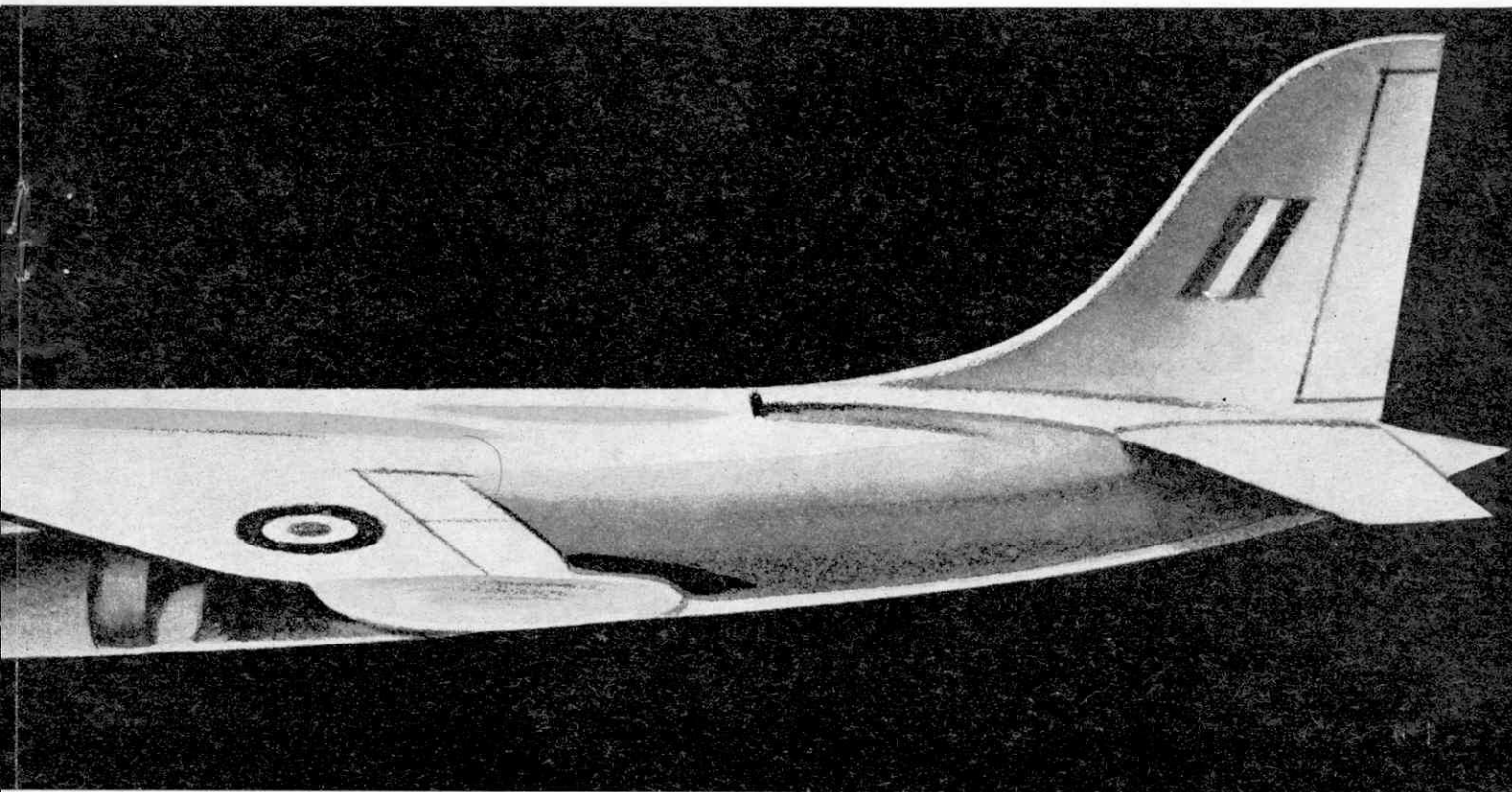
P.1121



P.1092



S THAT WEREN'T



seat fighter suitable for both interception and strike duties. Operational Requirement 339 was issued to cover the new ideas and although work on the P.1103 was stopped, Hawkers were encouraged to develop the basic design, at their own expense, to see if they could satisfy the new demands.

They did this by redesigning the aircraft to utilise any one of the three most powerful turbojets then available in Europe—the Bristol Olympus, Rolls-Royce Conway and de Havilland Gyron. Work began on a new prototype, known as the P.1121, powered by a Gyron P.S.26-6, giving 23,800 lb. of thrust with reheat. Even today, this aircraft looks advanced. Except for the underfuselage air intake, it was very like the Republic F-105 Thunderchief in appearance, but promised even higher performance, with a top speed of Mach 2.35 (1,550 m.p.h.) at 36,000 ft. Armament would have been fifty 2 in. rockets in two retractable packs in the fuselage, plus two Firestreak air-to-air missiles or a ton of ground

attack weapons.

Unfortunately, by this time the official requirement had been changed again, to call for a two-seater with longer range than the P.1121 could offer. So, reluctantly, Hawkers decided that they could not afford to finance any longer an aeroplane that nobody seemed to want and the P.1121 was abandoned in December 1958.

Construction of the prototype was so well advanced that, soon afterwards, a Middle Eastern government offered a vast sum of money if Hawkers would complete it, together with a second prototype. With such aircraft, they knew that they could fly over the territory of their neighbour without any possibility of getting shot down; but, of course, it was politically out of the question to accept such an order, however profitable!

Details of the P.1121 have been published before and the P.1127 vertical take-off fighter of today is deservedly world-famous, as it has pioneered a completely new era of combat aircraft and will serve with the R.A.F. in a few years. But it is doubtful if many readers of *Meccano Magazine* will have heard of the P.1129. This was to be a two-seat supersonic strike aircraft, powered by two jet-engines mounted side-by-side in the rear fuselage and armed with a nuclear bomb which it would have carried semi-submerged under its fuselage.

Ken McDonough's drawing shows, for the first time, how this aircraft would have appeared in flight. When I last met Sir Sydney Camm, he described it as: 'the worst miss of all—an aircraft with a better performance than the Phantom and one that would have gone a long way towards meeting the TSR.2 requirements, much more cheaply'.

He added: 'This, to me, is a terribly sad reflection, but it is in the past—what are we to do now? Are we to be out of the forefront of progress for a generation? We are putting all we know into the P.1154 (a supersonic development of the P.1127), but it is a newish type of aircraft with a new engine, so we shall want all the luck that is possible.'

Sir Sydney and Hawkers had no luck at all, as the government cancelled the P.1154.

Looking through a collection of his last designs, one is overwhelmed by the breadth of his vision. Most spectacular, perhaps, was a fighter that had everything—a kind of Super Phantom with a 'swing-wing' and lift-jets for vertical take-off and landing. More modest was the P.1128, a little six-seat jet business aircraft based on the Hunter, with two Orpheus turbojets side-by-side in the rear fuselage instead of the usual Avon. Anyone with sufficient money could probably buy a second-hand Hunter and have it converted into a P.1128. The result would be

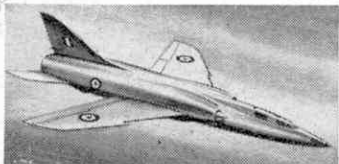
P.1154
one of the prettiest and fastest private aircraft in the world.

At a time when some aircraft are so ugly that they seem to have been born in a wind-tunnel rather than on a drawing board, the P.1128 reminds me again of almost the last words I heard from its designer: 'An aeroplane does not *have* to look wrong to be right.' Unfortunately, as this article has shown, it is no longer enough for aircraft to look right or even be right: unless government decisions are equally right, our aircraft industry will never again lead the world as it did in the great days of the Hart, Fury, Hurricane and Tempest.

John W. R. Taylor

Next month, John Taylor will write about a shape of the future—the Saab Viggen. This revolutionary aeroplane, which is just about to fly as we go to press, will also be the subject of a flying model, full-size plans for which will also be presented with the next issue. There's a picture of the model on page five

P.1129



P.1128

