

FAIREY DELTA 2

1954

SUCCESS



Fairey Delta 2 (FD2) was an experimental aircraft, designed to explore and resolve problems with transonic and supersonic flight.

Its long pointed nose, essential for a streamlined shape, could droop up to 10 degrees. This enabled the pilot a clearer view during landing. In March 1956, it broke the World Absolute Air Speed Record travelling at 1132mph (1822km/h). The tests proved that aircraft travelling at high speeds were difficult to control and needed the pilot to have absolute concentration at all times.



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From 1959 the FD2 was modified to help in the development of Concorde, the British and French partnership project for a supersonic passenger jet airliner.

ENGLISH ELECTRIC LIGHTNING 1954

SUCCESS



Two different experimental aircraft were tested to produce the English Electric Lightning, a supersonic fighter aircraft. It could travel at twice the speed of sound.

Engineers and scientists believed the first design, the English Electric P1, was too risky, with a 60-degree swept wing and the fin positioned low on the fuselage. The Short SB5 was built to improve this arrangement. In fact, the trial demonstrated that the P1 performed better and it was renamed the BAC Lightning.

To find out more about English Electric and how it became BAE Systems please visit the first floor gallery in the First World War in the Air exhibition in Hangar 2.



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The BAC Lightning could climb 12,192m (40,000ft) in two and a half minutes. The RAF used the aircraft for 29 years. An example is on display at the RAF Museum, Cosford.

SUPERMARINE SWIFT

1948

CANCELLED



Development of the Swift began in 1946. Supermarine initially experimented by attaching different types of wings to the fuselage of an existing aircraft until they found a combination which could fly at high speeds.

The Swift took a long time to develop as the swept wing was a completely new design. It eventually entered service with the RAF in 1954. After several accidents the Swift was declared unsuitable as a fighter aircraft and was replaced by the Hawker Hunter in 1961.



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The swept wing concept pioneered by the Supermarine Swift ultimately proved to be successful and variations of it are still used today.

HANDLEY PAGE HP46

1932

FAILED



The Handley Page HP46 was too heavy to meet the strict UK Government requirements for a new carrier-borne torpedo bomber. However, its use of slots and flaps in the wings to provide lift and better control at low speed made the aircraft a valuable research project for Handley Page. The aircraft itself continued to be plagued by weight issues and never reached production.



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By 1935 the Handley Page HP46 project had cost over £36,000 (£2.3 million in 2018). Despite being purchased by the UK Government in 1935, further research was not carried out.

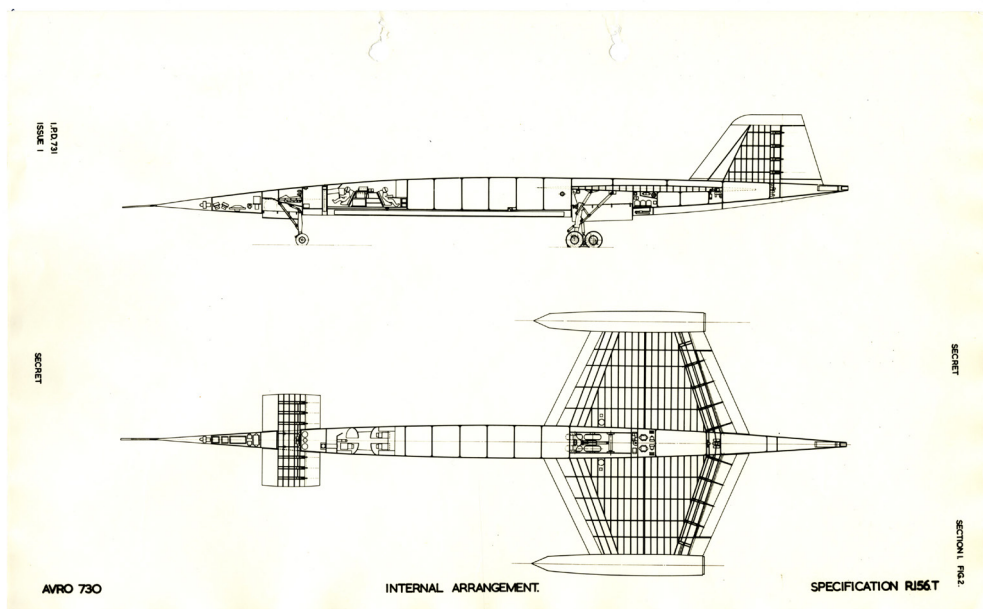
AVRO 730 1954

CANCELLED



The Avro 730 was designed as a very high performance aircraft to support the RAF's V-Bomber Force of the Vulcan, Victor and Valiant.

Designed for reconnaissance missions, the Avro 730 was intended to be capable of supersonic flight. It was cancelled by the British Government in 1957 as it was thought that by the time it was ready to come into service (in 1967, ten years later) it would be vulnerable to the rapidly advancing anti-aircraft missile technology.



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Despite being cancelled and the prototype destroyed, the design work on the Avro 730 ultimately contributed to the development of Concorde.

DE HAVILLAND DH117 1955

CANCELLED



In 1955 the RAF issued a requirement for a supersonic fighter aircraft capable of climbing to a height of 60,000ft (18,288m) in six minutes.

The de Havilland DH117 was one of many aircraft designed to meet this requirement. It was argued that it could fulfill the specified performance criteria and operate over a large range of distances. The project was cancelled by the UK Government who wanted manufacturers to concentrate on producing long range missiles.



© RAF Museum 82/M/1611

The DH117 never made it beyond the concept stage although some scale models were built for wind tunnel testing.

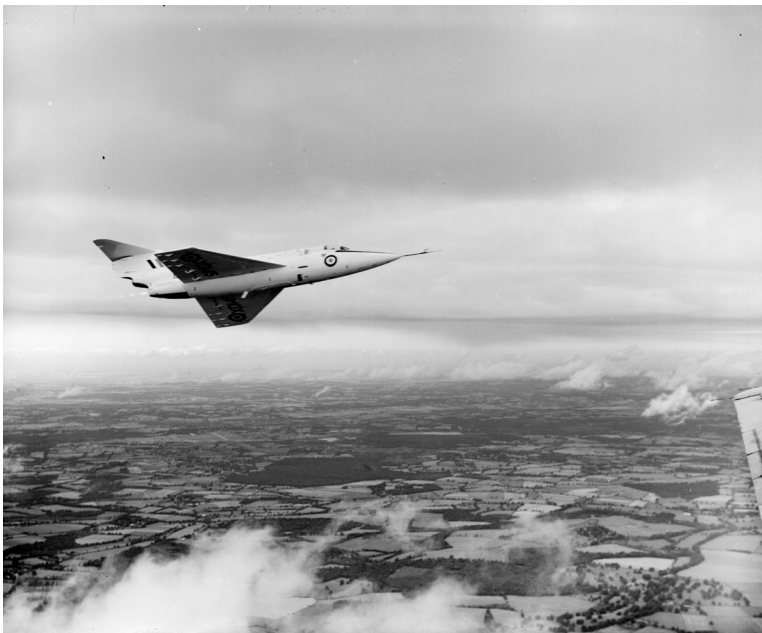
SARO SR53 1957

CANCELLED



The Saro SR53 travelled at supersonic speeds. It used both a jet engine and a liquid-fuelled rocket motor.

The British Rocket Plane project was based on technology developed by Germany during the Second World War. The project created the Saro SR53, a rocket-powered aircraft capable of intercepting enemy bomber aircraft during the Cold War. A fatal crash during testing combined with a change in the design requirements resulted in the remaining SR53s being grounded.



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The Saro SR53 used both the Armstrong Siddeley Viper turbojet engine and de Havilland Spectre rocket engine. It could travel 270m (886ft) per second.

VICKERS SWALLOW 1955

CANCELLED



Designed by Dr Barnes Wallis, famous for inventing the bouncing bomb, the Vickers Swallow was intended for long-range flight. It was adapted to fulfil a UK Government requirement for a supersonic reconnaissance bomber.

Described as an arrow-head, the aircraft had a delta wing fuselage with a raised middle. The rear points were swing wings which enabled the aircraft to achieve supersonic speed. UK Government funding for the Swallow stopped in 1957 despite more than £1 million being spent on the project.



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The Vickers Swallow was tested using an unmanned model, controlled by radio. A manned test aircraft was in design when the project was cancelled.

VICKERS WILD GOOSE

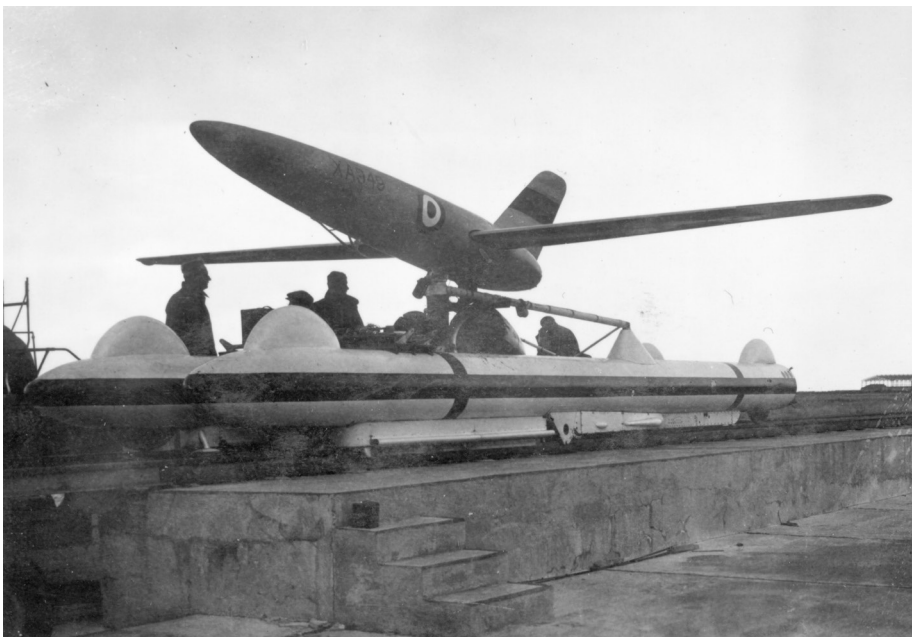
1950

CANCELLED



The Wild Goose project was developed to explore the advantages of variable-geometry or swing-wing aircraft. Sweeping wings backwards improved an aircraft's shape for travelling at high speed.

The aircraft was tested using unmanned models. These models were launched from a trolley and controlled by radio. Dr Barnes Wallis, its designer who had previously invented the bouncing bomb, reportedly claimed that more time was spent on designing the control system for the models than on the design for the aircraft itself.



© Courtesy of BAE SYSTEMS (RAFM X002-2626/304)

Wild Goose was never fully realised, but its swing-wing concept continued to play a part in future aircraft designs.

ARMSTRONG WHITWORTH

AW171 and AW172

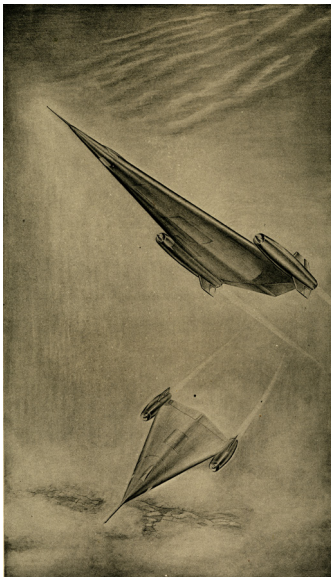
1955

CANCELLED



The Armstrong Whitworth AW171 and AW172 were both designed to explore the capabilities of narrow delta wing aircraft. They could take off vertically and travel at supersonic speeds.

The AW171 fuselage was incorporated into the wing with the pilot lying down in the cockpit. The AW172 had a regular fuselage which stood slightly proud of the wing. The prototypes were never built as the project was cancelled in 1957.



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The 1950s and 1960s saw an increase in state-of-the-art aircraft designs. Although many were not built, they inspired technology shown in television programmes such as Thunderbirds.