



Cambridge Society for the Application of Research

Churchill College  
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# **The Saga of the Miles M-52 Britain's Wartime Supersonic Project**

**Rod Kirkby**

Retired Aerodynamics Research/Project Feasibility Engineer

7:30 pm, Monday 8<sup>th</sup> June, 2015

Wolfson Hall Lecture Theatre, Churchill College, Storey's Way, Cambridge

## **The Lecture:**

In 1943 a specification was issued calling for a research aircraft with a 1000mph maximum speed to be powered by an extremely advanced Whittle turbojet engine. Aircraft diving in combat at half that speed had suffered violent buffeting and loss of control.

Many pilots had been unable to pull out, and the term 'graveyard dive' entered their vocabulary.

Aerodynamicists were aware that airflow characteristics changed as aircraft approached the speed of sound (660mph at altitude), but knowledge was scanty and conflicting, and the challenge presented in meeting the specification was daunting in the extreme.

The theoretical picture pieced together by the aerodynamicists at Miles Aircraft enabled them to produce a design which, with the benefit of hindsight, would have not only met, but exceeded the specification requirements.

The design process will be discussed, including the visits made to 'experts' in an attempt to establish sound from less-sound information on which to base the design.

Sadly the resulting aircraft was abruptly cancelled in February 1946 under a cloud of secrecy and misinformation, within months of its completion, scheduled for the summer of that year.

The reasons for the cancellation have been hotly disputed ever since, and I shall discuss some of these.

What is certain, however, is that this one cancellation caused Britain to lose the lead we then had in the design of transonic and supersonic aircraft, as well as advanced jet engines. (The Whittle engine alone was a technological tour-de-force, well over ten years ahead of its time).

It took over a year later for the Americans to nudge beyond Mach1 in October 1947 with the rocket powered Bell X-1, dropped from a bomber and gliding back to earth to land on a vast dry lake-bed in the Mojave desert, a facility which was not available in our tiny island!

## About the Speaker:

Rod was fascinated by aircraft from the age of six, covering reams of paper with drawings of Vampires and Meteors, which flew over his house in Kent.

By age 11, his aircraft drawings and paintings covered 90% of his classroom, courtesy of an encouraging head teacher.

Rod dreamed of becoming a pilot, but, as the years rolled by, his talent for science, especially physics, together with his love of designing and making model aircraft, drew him towards designing, rather than piloting, aircraft.

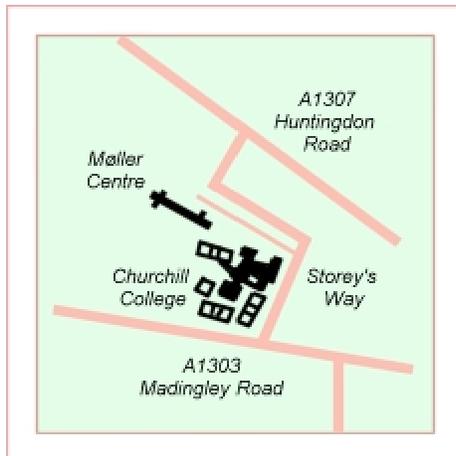
After gaining a Physics Degree, he joined Hawker Siddeley Dynamics, first in Coventry, then in London and Hatfield, as an Aerodynamics Research/Project Feasibility Engineer in their Future Projects Department.

It was a dream job, and he earned an enviable reputation as an 'Ideas' and 'Wood-for-the-Trees' man, but alarm bells started ringing when Hawker Siddeley's Research Department (20 strong) was laid off overnight, just as his wife was expecting their first child, so Rod jumped ship to join British Telecom's Satellite Communications Technical Development Department, which seemed less precarious and unstable than the aircraft industry.

He never lost his fascination with flight, however, and Monday's talk is about an aircraft whose design was astonishingly advanced, and would, without any doubt, have been the first aircraft to fly faster than sound, had it not been cancelled in circumstances which have been the subject of controversy ever since.

Now retired, he paints pictures, mainly of aircraft, including the subject of this talk, the Miles M-52.

## Practical Matters



Those attending the CSAR lecture may park in the Senior Car Park on Churchill Road, which is off Storey's Way. More parking is available further along Churchill Road, and in the Möller Centre at the far end.

CSAR lectures are open to all; CSAR members are admitted free. Pupils and students may register for free membership at the lecture reception desk.

Non-members are asked to make a nominal contribution of £3.00.

Coffee and biscuits are available in the Wolfson Foyer from around 7pm. For further directions, see:

[www.chu.cam.ac.uk/about/visitors/directions.php](http://www.chu.cam.ac.uk/about/visitors/directions.php)

**NB Please note that this talk is in place of the lecture by Professor Andy Barron on Shale Oil and Gas Production, as he will not now be back in the UK by 8<sup>th</sup> June.**