

# Dennis Higton (1921–2012)

Interviewed by Thomas Lean, 2011



Dennis Higton

*Dennis Higton began a long career in aeronautical engineering at the Royal Aircraft Establishment (RAE) at Farnborough in 1938. At the RAE he supported research on high speed flight, including Britain's first jet aircraft, the Gloster E28/39. Later he worked on naval aircraft at Boscombe Down, and at the British Embassy in Washington, building technical relations with the American aircraft industry. He returned to a series of senior posts in London, becoming Director-General Military Aircraft Projects in the late 1970s. Dennis was born in Aldershot, and grew up in difficult circumstances following the death of his mother in the lean years between the wars. Facing a future with limited prospects, Dennis' life was transformed by passing an exam to become an engineering student apprentice at the Royal Aircraft Establishment (RAE) at Farnborough.*

Now this word 'prospects', it hovers over me still, and that's when the taking the Farnborough exam suddenly gave me all the prospects in the world at the absolute lowest possible spot I could be in life. Whenever I hear that word prospects it means a lot to me.

*They were prospects that Dennis made the most of, in spite of the steep learning curve that greeted him at Farnborough:*

"I realised it was a tough school, I realised I was miles behind the others, I passed the exam probably because I was struggling so. However, I can't tell you the resolve that I put upon myself not to cheat, not to slack, to become absurdly diligent because I wouldn't have another chance. And so much so I was almost a one track mind, but they also failed you if you went down one subject, and you went back a year... I finished my apprenticeship on my birthday, twenty-first birthday, which was 21st July, 1942. And to my amazement the aerodynamics department at Farnborough took me on as a junior scientific assistant."

*The position suited Dennis down to the ground. With an aptitude for practical engineering, his skills were of vital importance devising experimental equipment to support the theoretical work of Farnborough's aerodynamics experts in the Aero F (Flight) section. Working with John Charnley (C1379/30) he developed and fitted instrumentation installations to record the behaviour of aircraft in flight, with cameras to photograph their measurements for the boffins on the ground. In late 1942 Dennis received a surprising request from his section leader Ron Smelt:*

"Smelt said, 'You'll never believe it but we've got what they call a jet propelled aeroplane and we, Higgy, have got to make some measurements.' I said, 'I don't even know what you mean.' 'Well, it's one of the secret things that we haven't talked about, but the Germans have got aeroplanes flying without propellers. And we've got one, and we've made it in England.' So I thought, 'oh, the man's gone mad.'"

*Fitting instrumentation in the new jet plane was an exercise even more difficult than normal, as Dennis explained:*

"Normally, you see, you had a reasonable amount of space. At the back of a Spitfire you'd have a space as big as this, you'd make a board to go into it and you'd put the instruments... and pipe them up in the normal way. And the camera would be the right distance. And it could be photographed... in accordance with what you wanted the pilot to do. And that was common practice but on this aeroplane... there was no room for anything because the engine filled the aeroplane.

"I did everything I could, ingenuity gone mad, and I eventually said to the fitters, 'Look, if you get these instruments ...' That will go in that space, and there'll be a space here to have a camera under the pilot's seat, a little tiny space, and another one here so that you can photograph there... So two cameras under the pilot seat. And the chap will have no electricity, so he had to press the thing that you have on an ordinary camera with his fingers... There were no instruments designed for this sort of thing, we had to use laboratory instruments. But nevertheless I was able to say 'there you are' to Smelt. And the pilots latched on to what we were doing and we agreed the flight programme so that they pressed the button when we wanted it."

*The trials were a success and Dennis' contribution was vital, acknowledged years later by Dennis' old boss Frank Smith at a reunion:*

And there was old Smithy stood up, 'Higgy, I've been wanting to see you. We couldn't have done anything if you hadn't put all those – all that apparatus made with ...' He said, 'I often wondered who did it,'... 'Well, none of us could have done it.' "