

frustration caused him to tend to withdraw somewhat from the company of others and thus give an appearance of aloofness. Those of us who were privileged to know him better recognised this as mere illusion for he could be the most warm and charming of companions. His very keen sense of humour could always be relied upon to enliven any conversation and often even shone through much of his technical writing, whilst in the right circumstance he could use a caustic wit with quite devastating effect. Above all he loved the simple things of life—the beauty of nature and the countryside. Walking was a favourite pastime of his as was also working in his garden and it is not unnatural that this part of him is reflected so well in a number of his poems. A man of great sensitivity he always reacted vigorously to any suggestion of man's inhumanity to man whether on a person to person level or on a

broader front. This made him very vulnerable and it was in this respect that his wife (Tommy) was such a tower of strength to him throughout their long married life. Her death just over three years ago was a great blow to him.

Though now gone he will live on for as long as people are concerned with the problems of flight in a way that is aptly described by words that Barry himself used of another,

"He is not dead. Still on my mortal breath  
Swells a low music from his heart's desire.  
I am most proud, and you most cheated, Death,  
Knowing in his closed book this deathless fire".  
*Poems, 1925*

*H. H. B. M. Thomas*

## **Sidney Allan** **CEng, FRAeS** **1909-1973**



**S**IDNEY ALLEN who died aged 63 on 22nd August 1973 after a short illness was one of the small group of men engaged on combustion system development in the very early days of aircraft gas turbines. Although he later turned his attention to rocket engine development and general work on gas turbines, it is for his pioneer work on the vaporiser combustion system that he will be best remembered.

It was in 1941 that he was given the task of developing a combustion system for the first Armstrong Siddeley aircraft jet engine known as the ASX.

His contemporaries were at that time all working on a system of pressure atomisation of the fuel, although some early work had been done on a form of flash vaporisation.

Working with a small team of engineers and fitter/testers he quickly became convinced that success lay in the principle of pre-vaporising and mixing with air before combustion. After many experiments the first system eventually appeared on the ASX and later on the Python turboprop derivative.

The next Armstrong Siddeley engine the Mamba, unlike its predecessors, used the now conventional axial layout which necessitated a considerable reduction in length on the earlier system. This challenge he met with the now well known "walking stick" form of vaporiser, which was of simpler construction and permitted greater sub-division of the air/vapour injection into the primary zone.

This system was later applied to the Viper and Sapphire series of engines and was licensed to Westinghouse and Curtiss-Wright in the United States. Work was also carried out at Avro Canada and Sid Allen took an active part in this collaborative work.

The team which he founded continued work on the system and it is used on the Pegasus, M.45 and Viper, and has now been applied to overcome the smoke problem on the Olympus 593 for Concorde.

Sid was also responsible for Armstrong Siddeley's work on rocket engines and developed the Snarler boost engine which was flight tested in the prototype of the Sea Hawk. In 1954, as Chief Engineer of the Rocket Division, he devoted his full time to the development of the Screamer aircraft engine, followed by the Stentor, used to propel the Blue Steel stand-off bomb. His team also produced the Gamma engine for the Black Knight re-entry vehicle. The Gamma was also used in a later developed version to power the Black Arrow satellite launcher.

He later became Chief Engineer of the Power Division of Bristol Siddeley, and at the time of his death, was Chief Design Engineer of the Industrial and Marine Division of Rolls-Royce (1971) Limited.

Shortly before his death he had returned to his first love, combustion development, with a programme of work on pollution control on gas turbines burning diesel fuel. Had he survived his persistence and experience would almost certainly have contributed greatly to the solution of one of today's major environmental problems.

He is survived by his wife Phyllis, his son and two grandchildren.